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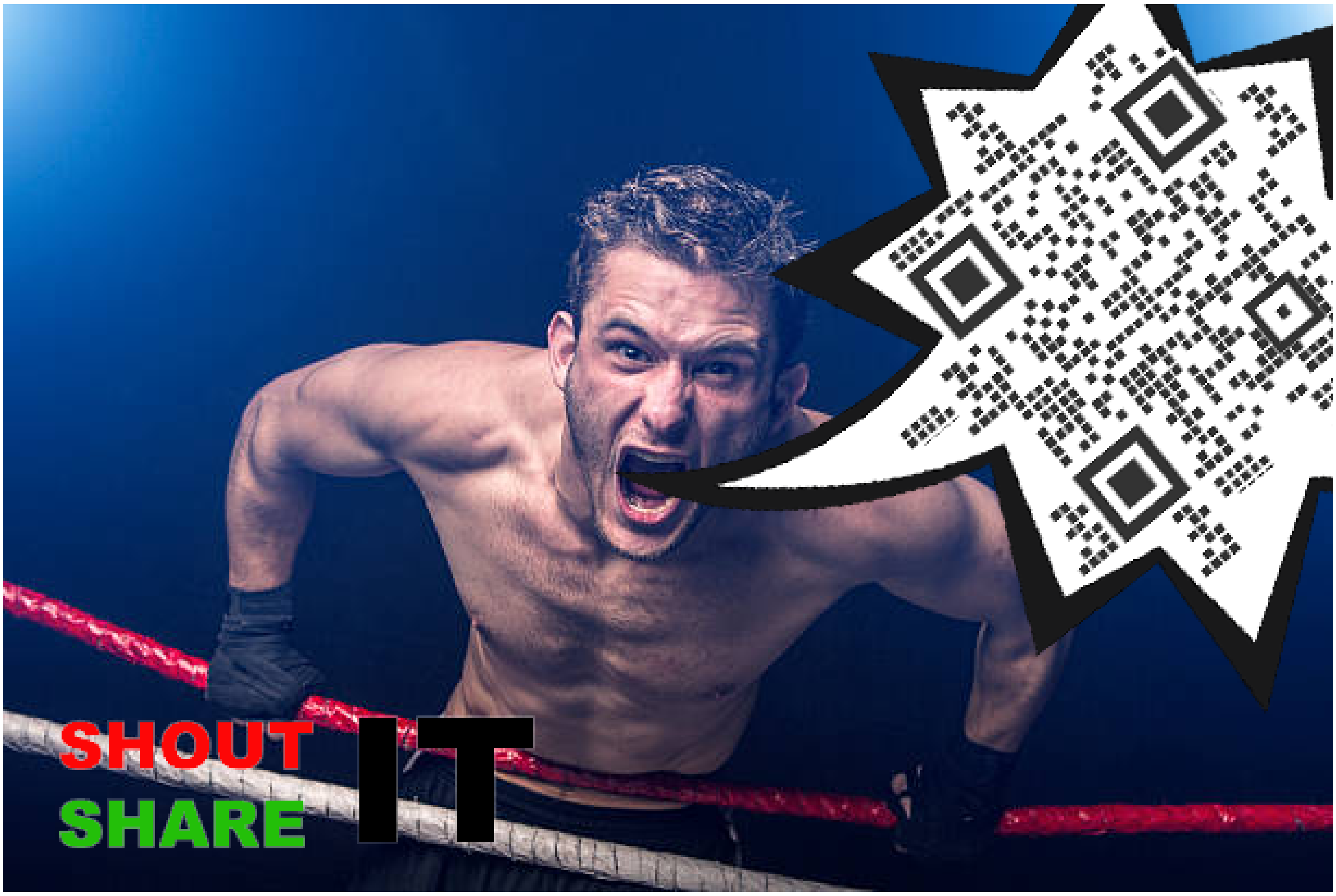
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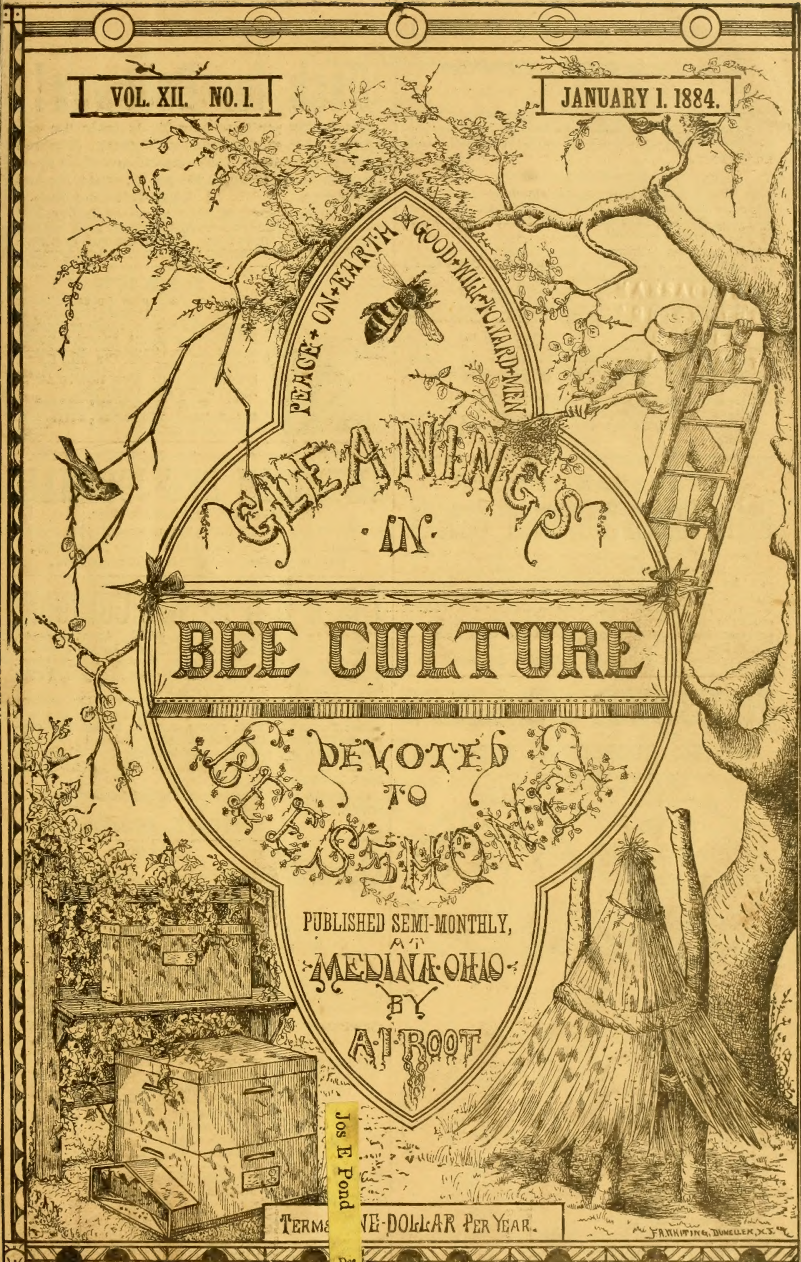

VOL. XII. NO. 1.
JANUARY 1. 1884.

PEACE ON EARTH GOOD WILL TOWARD MEN

GLEANINGS IN BEE CULTURE

DEVOTED TO BEES & HONEY

PUBLISHED SEMI-MONTHLY,
AT
MEDINA, OHIO
BY
A. I. ROOT

TERMS NE-DOLLAR PER YEAR.

FA. WHITING, DUNELLEN, N.J.

Jos E Pond
Dec 85

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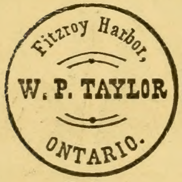

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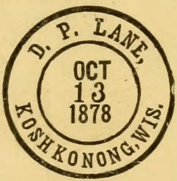

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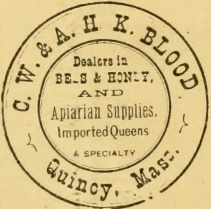

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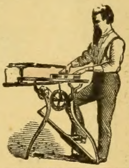

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" Sunday School Times, weekly,	(2 00)......	2 25

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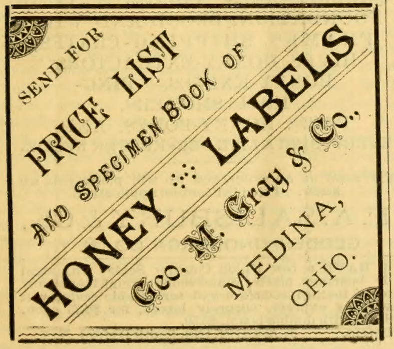

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Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

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*Paul L. Viallon, Bayou Goula, La. 1ttd
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*Wm. Ballantine Sago, Musk. Co., O. 1tfd
*D. A. McCord, Oxford, Butler Co., O. 3-2 7tfd
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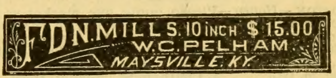
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Select tested queens, young and prolific, - - $3 00
Tested queens, young and prolific - - - - - - 2 50
No more "dollar" on hand this year.
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Basswood Sprouts,

FROM 1 TO 3 FEET HIGH.

$1.50 per hundred; **$10.00** per thousand. All orders should be in before April 1st, 1884, to receive attention.
HENRY WIRTH, BORODINO, N. Y.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

NEW YORK.—*Honey.*—Market is more active since the slackness we reported in our last, and we disposed of fair quantities during the last two weeks. The present sales are satisfactory, and we expect to have a fair demand in future. We quote:

Fancy white-clover, in 1-lb sect's, paper boxes.	21
" " " in 1¼-lb. sect's, glassed....	17@18
" " " in 2-lb " "	16@17
Fair white-clover, in 1-lb. sect's, no glass.......	17@18
" " " " " " glassed.......	17@18
" " " " 2-lb. " "	15@16
Buckwheat, in 1-lb. sect's, no glass...............	15
Ext. clover or basswood, in bbls. or kegs.......	9@10

Beeswax.—Receipts are light, with increasing demand. Receivers hold prime southern at 34@35c.

H. K. & F. B. THURBER & CO.,
Dec. 24, 1883. Reade and Hudson Sts., N. Y.

CLEVELAND.—*Honey.*—The honey market remains unchanged. Choice 1-lb. sections of white sell at 18@19c, and 2-lbs., 16@17; second quality, 15@16. Buckwheat not salable. Extracted is, as usual, very dull.

Beeswax.—Very scarce at 28c. A. C. KENDEL.
Dec. 22, 1883. 115 Ontario St., Cleveland, O.

CINCINNATI.—*Honey.*—There is no excitement on the honey market. Demand for extracted honey is improving; but supplies being large, prices keep down. It brings 7@10c on arrival. Arrivals of comb honey, and demand for it, are in fair proportion. A choice article in 1 and 2 lb. sections brings 20c from store, and 16@18c on arrival. *Beeswax* is scarce, and brings 28@32c on arrival. C. F. MUTH,
Dec. 19, 1883. 976 Central Ave., Cincinnati, O.

CHICAGO.—*Honey.*—Honey goes off slowly, and prices are lower on lots that don't grade A 1, such as unfilled combs and uneven-running lots or cases of combs. One-pound sections, from 15@20c; 1¼ to 2 lb. sections, 14@18c; extracted is steady, but demand quiet at 7@10c. *Beeswax*, 28@35c. Trade only fair for this season of the year. R. A. BURNETT,
Dec. 22, 1883. 161 South Water St., Chicago, Ill.

BOSTON.—*Honey.*—Please quote our market as a little dull on honey, and we do not advise further shipments at present. We quote 1-lb. sections at 18@20c, and 2-lbs., at 16@18c. Extracted, 8@10c. *Beeswax*, 32@35c. BLAKE & RIPLEY,
Dec. 26, 1883. 57 Chatham St., Boston, Mass.

DETROIT.—*Honey.*—The honey trade is not very active, though a good deal is changing hands quietly, at 18@20c. A. B. WEED.
Detroit, Dec. 26, 1883.

FOR SALE.—2000 lbs. of extracted white clover and basswood honey. It is put up in 50 lb. tins. I will crate and put on board cars at Thornburg Station, N. R., for 12c per lb. Address G. H. SHEERES,
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As early as wanted in the spring, a large number of swarms of

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G. B. LEWIS,
1tfd WATERTOWN, - WISCONSIN.

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Queens Carefully Bred from Select Cells, Produced in Full Colonies from Selected Queens.

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Safe arrival guaranteed to all parts of the U. S. and Canada. Now, all who want to obtain a supply of these queens early in the season will please make out your orders on a postal card, and send in at once. Money may be sent about May 1st, either in registered letter or postoffice order on Fostoria, O. Address,

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12½tfd. J. A. HOPKINS, South Oxford, N. Y.

AGRICULTURAL COLLEGE.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES, HONEY, & HOME INTERESTS.

Vol. XII. **JAN. 1, 1884.** **No. 1.**

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NOTES FROM THE BANNER APIARY.

No. 50.

THE "OTHER SIDE" OF BEE-KEEPING, ONCE MORE.

I MAY as well own up, that in comparing bee papers with other journals I forgot the agricultural papers. To some this may appear strange; but it is strictly true, and I hope no one will doubt my word. I am also forced to admit, that the agricultural papers *do* contain accounts of extraordinary yields from small pieces of land; but it does seem to me that they do not go at it in such a glowing, bubbling, booming, enthusiastic, all-carried-away, never-know-a-failure manner, as do the bee-journals; besides, they tell us that we must not expect such large yields from whole farms. I believe that the bee-journals also mention the same thing, *sometimes*, but they never seem to dwell upon it with any great degree of fervency. All I ask is, that *both sides* of bee-keeping be faithfully pictured. After I engaged in bee-keeping, so many friends said to me, "Why don't you go into the poultry business, too?" that at last I began to think quite seriously of doing so, and I finally sent for a book upon the subject. Well, this book pictured both sides of the business so faithfully, that I not only decided not to go into the business, but I sold what few hens I did have, and I have been thankful ever since. I haven't the slightest doubt but that money has been made in the poultry business; but I am also just as certain that it has a dark side, and I do feel grateful toward, and I respect, the man who had the courage and good sense to write upon the subject without "puffing" it. When we think of the poor seasons; of the wintering losses; of the eruptions and boils, the partial paralysis of the nerves of motion, the inflammation of the breathing-tubes, eyes, ears, and throat, that come upon some of us as the result of taking into our systems so much bee poison; of how, even yet, many of us, in order to sell our honey, are obliged to go "hawking" it about; we can not load up and drive into any large town and sell our honey, at a regular market price, for "cash down," as we can butter, eggs, wool, grain, hay, potatoes, beef, pork, or almost any other imperishable product; and last, but by *no means least*, when we think of how that dire scourge, foul brood, is developing and spreading in many parts of the country; when we think of all this, even the most sanguine bee-keeper must admit that there is a dark side to the shield, and a decidedly dark one; and all that I ask is, that when the dark side begins to show itself, no hand be raised to turn it back again.

Perhaps I may as well right here explain the "concluding thought" of my report of the Chicago convention, as given on page 747. The idea that Mr. Langstroth meant to convey was, that with box hives and primitive methods, no skill nor knowledge was required; all that was necessary was to hive the swarms, and, in the fall, brimstone the lightest and heaviest stocks. With improvements in hives came improvements in methods and implements; and with these came the need of extensive knowledge upon the subject. Without this knowledge, these improvements were worse than useless — they were *detrimental;* while to the man who knew how to properly use them, they were an advantage, enabling him to get large quantities of honey very cheaply, as compared to what could be done with the old methods. The farmer was not long in discovering that he could buy his honey more cheaply than he could produce it; he could not afford to buy improved hives, honey-extractors, smokers, honey-knives, comb foundation, section boxes, fountain pumps, bee-veils, etc.; fit up a place to keep and use them in, and *learn how to use them*, all for the sole purpose of caring for a few colonies of bees, and then be bothered with them right in his busiest season — haying and harvesting — not *he;* he could buy his honey cheaper, and, like a sensible man, he dropped bee-keeping; the specialist picked it up, and, with each year, it was becoming more of a specialty; in fact, it was rapidly becoming a scientific profession.

In thus writing upon the other side of bee culture I do not wish to be understood as discouraging people from entering our ranks; but in coming I wish them to come with their eyes open, with a full understanding of the difficulties they will have to encounter; then when the disappointments come they will not be so bitter. Instead of wishing to drive everybody out of bee-keeping, I have a genuine love for my brother bee-keepers; in fact, some of them have been so kind to me that I not only feel grateful toward them, and would do almost any thing to help them, but I have a real, downright, heartfelt *love* for them; but I must say, that I take more interest in making of bee-keeping a safe, pleasant, and profitable pursuit, than I do in leading others to become bee-keepers, by continually holding up to their view the bright side of the business. For instance, I take pleasure in telling bee-keepers

HOW TO GET PURE SUGAR.

In the Reminderу for November, page 588, you say: "Now, if we shall succeed with these natural stores, after having failed so many times with granulated sugar, do not say it was because natural stores are better than sugar, but rather because we doubled them up until every colony was a powerful one." When I read this I could not help wondering if you had not before doubled up colonies until they were "powerful," given them natural stores, and *then* lost them; and furthermore, I wondered if you knew that all granulated sugar is not pure cane sugar. Within the last month I have conversed with a candy-maker who has had more than 30 years of experience, and he told me that granulated, coffee A, confectioner's A,— in fact, *all* grades of sugar,— can be, and many times are, adulterated with glucose or grape sugar. That adulterated sugar *sometimes* has a bluish cast; that the "motion" of the sugar as it is handled will sometimes enable an expert to detect adulteration; that in some grades of sugar the glucose can be seen, but that *no man* can look at sugar and tell positively whether it is pure. He said that in buying granulated, or confectioner's A, the chances of getting pure sugar were greater than in buying other grades; but there was no absolute certainty. In making some grades of candies, absolutely pure cane sugar was required, and for this purpose they bought confectioner's A, but often found it adulterated, and it was only by experience that they had learned that *certain* refiners could be depended upon to furnish them pure sugar; in other words, they had to depend upon the honesty of the refiner. In making many grades of candy, glucose was used; and pure sugar could be mixed with a certain per cent of glucose and have it "work;" if too much glucose was added, the candy was a failure. They could always tell how largely sugar was adulterated by the amount of glucose that it would "take." They never could tell, to an absolute certainty, that sugar was pure, until the candy made from it was poured out upon the marble slab, and work was commenced upon it. I told him the object of my conversation, and for what purpose I wanted pure sugar, and he said, "If you want pure sugar, I can get it for you, because there are two firms, or refiners, whose sugar we have used for years, and they can be depended upon every time." Do you see the point, my friends? If you wish for pure sugar, go and have a candid talk with a candy manufacturer; for if anybody knows where to get pure sugar, *he* does. But you can not always depend upon granulated sugar, as I have a friend who fed some to his bees in the summer time, and it killed them by the thousands. If the sugar that your bees had, friend Root, when they died, was adulterated with glucose, it would explain why they died, as glucose is so largely composed of vegetable matter as to be a poorer winter food than even poor honey.

W. Z. HUTCHINSON.

Rogersville, Mich., Dec. 15, 1883.

Friend H., I, too, think it would be wrong to induce people to go into bee culture by presenting them the bright side of it; but I can not think your criticisms on our bee-books and bee-journals are very well grounded in this respect. I can not remember of ever reading any book or journal that urged people to go into the business. A book on bees or a book on poultry should tell all that people want to know on the subject, so far as they can, and I do not now think of any books that do not give cautions and warnings. On page 284 of the A B C book I have not only given you the worst side of bee culture I ever knew, but I had our artist make a picture, to show what our friends might expect occasionally. It is true, our books and journals do not represent the industry as one that won't pay expenses in the long run; for if such were the case, there probably wouldn't be any books or journals very long. What is the matter with you lately, friend H.? You have not got astray into bad company, have you? Here is something that I clipped from an address of our mutual good friend Prof. Cook. I suppose everybody knows that it is always safe to bring any thing in that friend Cook ever wrote or said:

EXTRACT FROM AN ADDRESS BY PROF. COOK.

Another fallacy, as I think, which some few of our apiarists are loudly proclaiming, is that apiculture is only for the specialist. Why, gentlemen, our brothers in horticulture and agriculture are free to admit that they owe more, in the way of real progress and advancement, to amateurs than to specialists. I know that apiculture is no exception. Our honored guest was an amateur when he conferred the greatest boon upon our art. Long, Demaree, Clute, and a host of others of our best bee-keepers, are amateurs. I am free to say, that three-fourths of the honey product of our State is produced by men with whom apiculture is only an avocation. I can name a score of bee-keepers, whom I know personally, who are farmers, lawyers, doctors, who keep hundreds of colonies of bees, and many of whom not only get large returns of honey, but winter each and every year with entire success. When our specialists are all equally successful, then they may cry hold! enough! with more justice.

An indication that the new recruits in apiculture will exalt rather than degrade the business, is seen in the fact that many are calling for instruction in this line. Few studies at our Agricultural College win more earnest study and real enthusiasm than does entomology, which embraces quite thorough instruction in apiculture. Last year we had a student from England, and this year one from Texas, who came especially for the bee culture. The fact that Messrs. Jones, Heddon, and Clute, have respectable classes, shows that there is a call for more knowledge. We can but wish God-speed to all these gentlemen in their efforts. Special training is most desirable to the would-be apiarist. To be with such efficient bee-keepers for a season will give a vantage ground that can hardly be appreciated till enjoyed. The practical apiarist will be more proficient if he has had the science of entomology and physiology, and other cognate studies; but if he can not, because of age or circumstance, take so much time, let him by all means study and work for a season with some good apiarist. Such a course will never be regretted.

Now just a word about the sugar. I have never yet seen any granulated sugar that was adulterated with grape sugar. It could not be adulterated with glucose, because glucose is a liquid and *always* a liquid. I presume you know I am at home in this matter, and have always proved my position. There are two kinds of sugar prominently known in chemistry — grape sugar and cane sugar. We get pure cane sugar from sugar-cane, beets, maple-trees, and other sources. It is easily procured chemically pure from any of these sources, by its well-known property of crystallization. If you buy a jug of maple molasses, and keep it any length of time, you will find crystals of pure sugar, or rock candy, on the sides of the jug. By washing these crystals you will have sugar chemically pure, without any maple taste about them. The same kind of sugar can be produced from beets, and recently from sorghum sugar. No matter what the source, it is the same — white, hard, dry, and sweet. Now, if any other substance can be found possessing all these properties, it might be used to adulterate pure cane sugar. Grape sugar comes nearest to it, but grape sugar does not crystallize. Cane sugar always crystallizes, or forms rock candy, as it is called. Coffee A sugar may be adulterated with grape sugar, because it is sometimes more or less moist; and a fine hard quality of grape, grated into it, might not at once be detected. If mixed together, it is not a very hard matter to separate them. Dissolved in water, cane sugar will form crystals, while the grape sugar will get hard, like tallow, as it were. Granulated sugar, at least the kind we buy, is formed of dry hard crystals, or little bits of rock candy. With a magnifying-glass it looks exactly like lumps of rock candy. If grape sugar were grated up and put into it, it would look under the magnifying-glass like little lumps of tallow, and it would stick the grains of cane sugar together, something as lumps of tallow would; so that, instead of running like sand, it would set together in lumps, as coffee sugar and brown sugar do. Now, it may be they have invented something to put into granulated sugar that I have not seen and do not know of; but if they have, I should be glad to see it. Please excuse me, if I once more suggest that, in writing about sugars, we bear in mind that grape sugar is a solid body, like lard, and is a liquid only when melted, as lard is; and that glucose is a liquid and always a liquid. It may be made thick, by lowering the temperature, so that a saucer full may be inverted; but even then it is transparent, and not opaque, like grape sugar.

KEEPING THE BEES FROM SWARMING ON SUNDAY.

ARE WE AT PRESENT EQUAL TO THE TASK OF MANAGING THE MATTER?

FRIEND ROOT:—That article in last GLEANINGS, from L. L. Langstroth, concerning holding back swarms for a day or so, or while at church, is worth many times the price of GLEANINGS, if it can only be made to work. I have repeatedly said that I would give quite a sum, if I could only control swarming without so much work, handling over the sections, and cutting out queen-cells, giving brood, extracting from the brood-chamber, etc. Either or all of the above remedies, when applied to a hundred swarms, as often as it is necessary to prevent swarming, is more than I want to do, especially while running for comb honey; and now I wish to give at least one reason why I am afraid that confining the queen will not be a success. The queen by no means leads out the swarm, and is many times among the very last to leave the hive; now, my opinion is, that the bees will swarm, even if the queen is confined. There would be no great harm in this, if they would only return to their own hive; but my experience is, that with hives sitting six feet apart, the bees, after circling in the air, very often return without their queen, to some neighboring hive, and especially might this be the case should two or three swarms issue at the same time.

Now, friend Root, if there is any thing in the above that you can make use of, do so; I do earnestly hope for some such simple remedy or prevention of swarming.

FUEL FOR SMOKERS.

Two years ago, if I am not mistaken, I told you to tell the brother bee-keepers to try toad-stools, and they do work remarkably well, and I had not a thought but that bee-keepers could get plenty of them, which it seems they can not do. Now, I have another article to offer, which I know that some of you can get in great abundance. It is the tassel from cat-tail flag. We call them cat-tails; get them before they get too ripe, and dry them thoroughly. Drop a few coals into the smoker; crowd in two or three of them, and you are loaded for a good long job. You would think the downy things would burn out quickly, but they will not, and do not blow sparks. GEORGE H. SPRAGUE.

Haskinville, N. Y., Dec. 14, 1883.

Friend S., I think you are right, or at least partially right. Even if we do control the queen, and keep her, it is a pretty bad thing to have bees rumaging without the queen, and I have sometimes thought I would rather take the chance of letting the queen go along with them. The best safe-guard I know of against having swarms on Sunday is to take their honey away with an extractor; and if they get over-populous, take away some of their brood, or, what amounts to the same thing, swarm them artificially. If one wants to raise comb honey, I know it is a little risky; but giving them an abundance of room in the sections, and keeping the hives shaded, will perhaps go a good way toward discouraging swarms from coming out. After having done this, a Jones guard put over the entrance, to hold the queen, might be a pretty good thing. If they went off, we should be a queen ahead, any way.—Thanks for the suggestion on the cat-tail flag. There is plenty, almost everywhere, I believe.

HOW I USE SINGLE-STORY HIVES.

SOME GOOD SUGGESTIONS BY FRIEND POPPLETON.

THERE seems to be considerable interest among bee-keepers, concerning the use of single-story hives; and as I have used them quite largely for a number of years, I will try to tell something about how I use them—not theories about how I think they *ought* to be used, but just simply the details of the ordinary management of my apiary. Of course, I will not need to give the details of *all* the operations in the apiary—only such as concern the use of single-story hives. Neither shall I, in this, enter into any discussion whatever about the comparative merits of the single and double story systems, leaving all such discussion to take care of itself in the future.

I suppose it is generally understood, that single-story hives are almost exclusively used in the production of extracted honey; but I use them without any particular trouble in getting what little comb honey I do raise, usually using wide frames at the sides of frames, and a section-rack on top, being essentially the method used by Mr. Doolittle. Single-story hives were, I think, first described some 10 or 12 years ago by Gen. D. L. Adair, of Kentucky, and Elisha Gallup, of Iowa. These hives have been called by various names, such as "New-Idea" hives, "Long-Idea" hives, "long" hives, "horizontal" hives, etc.; but it seems to me that the term "single-story" hives is the most appropriate. Gen. Adair gave his hive the name of "New-Idea" hive; the idea, which was new, being to place the brood-nest in the back end of the hive, having the empty combs for surplus honey between the entrance and the brood-nest, the entrance being at the sides of the frames instead of at the ends, as is the ordinary practice. I do not know how largely this idea of Gen. Adair's has been tested, but I think very little, nor do I know how successful or unsuccessful that little has been.

I first made the long hives, essentially as I now use them, in the spring of 1872, the idea coming at that time from the pen of Mr. E. Gallup, of my own State. They are oblong square boxes, 40 inches in length outside measure, and just deep and wide enough to take frames 12 inches square, top-bars being 14 inches long. Bottom-boards are either loose or tight, as one may prefer. An entrance is cut in the center of the lower edge of the front side of the hive, ½x12 inches, ordinary triangular blocks being used to control size of entrance. The frames run from front to rear, the number of them being graduated to suit season and size of colony, two division-boards being used close up to the frames, one on each side, the latter being kept as near the center of the hive as convenient. I first made the division-boards to fit tight, but found they were too much trouble to manipulate, so have of late years made all to fit quite loosely. I use altogether, double-walled or chaff hives, the make of which is, of course, quite different from single-walled hives; but as the brood-chambers in both are essentially the same, I will not, in this place at least, give any description of the chaff hive.

SPRING MANAGEMENT.

As soon as weather becomes warm enough for bees to fly quite freely, usually with us from the 25th of March to the 10th of April, we overhaul and thoroughly examine every colony, cleaning out the hives, and noting on the outside of the hive its exact condition as regards health, quantity of bees, stores, and brood. This record is a guide for work until commencement of the honey season proper. During this examination all colonies that are weak in number are deprived of part of their combs, division-boards and cushions being closed up accordingly. All colonies that are short of stores are given frames of sealed honey, kept over for that purpose, and all queenless colonies are disposed of according to circumstances, usually by giving the strong queenless ones the queens from the weakest colonies in the yard, and destroying the weak queenless ones. I have entirely given up trying to unite weak colonies in the spring, as I can not see that the united stocks are materially stronger at commencement of honey-season than each of them would have been if kept apart. Much better satisfaction has resulted from keeping all the weak colonies that have good queens, and building them up by giving brood and young bees from the strong colonies. I feed bees flour every spring until natural pollen appears. I do not know that it is any material help to them, but it keeps them out of mischief, and allows of their being handled without serious trouble from robbers. To briefly summarize, our *early* spring management consists in seeing that every hive is thoroughly cleaned out, that each colony has ample stores of sealed honey, has a laying queen, and has all the space they can utilize, and *no more.*

Later spring management is devoted almost entirely to building up our colonies in readiness for the honey season. The best way of doing this is still one of the disputed points of bee culture; and while I do not think that I am surely right and others wrong, I do prefer and practice what is known as the "spreading-comb system" As soon as the bees are strong enough to cover more brood than they then have, usually the latter part of April or the first of May in this locality, I insert in the center of the brood-nest a frame or two of empty worker comb, doing this work as often as necessary, rarely inserting more than two combs at a time, oftener only one. I usually go over the apiary once a week, inserting combs in such as need it, a moment's examination of each colony being sufficient to allow one to determine what needs doing. This spreading of the combs I regard as one of the most particular operations of the apiary, and should never be practiced largely by any but the experienced bee-keeper. Too great caution can not be used by the beginner, especially if single-walled hives are used. In fact, I have some doubt whether I should practice this system at all, were it not for the aid of chaff packing and chaff cushions. This spreading is continued all through the season with such colonies and at such times as may be necessary, and is, in fact, the foundation of the method I use in increasing the number of colonies.

In making my increase of colonies I practice entirely what is known as the "nucleus system," making my nuclei as early in the season as possible, and building them up during the entire season by giving them foundation, empty comb, or brood, from other hives, as they may need either. This is a much better plan than either dividing or natural swarming, as it allows of keeping the original colonies in strong populous condition, ready for any yield of honey when it comes. For rearing surplus queens for replacing poor ones in the apiary, I divide some of my standard long hives into three or four apartments by the use of tight-fitting division-boards, making small entrances to the apartments on different sides of the hive, and putting a two-frame nucleus into each apartment, using standard frames. By the close of the season, these three or four nuclei in each hive are strong enough to be united, and make one good strong colony for wintering.

As soon as white clover fairly commences to bloom, each colony must be supplied with from two to six more frames of empty combs. Some of these want to be placed at the side of the brood-nest; but I usually prefer to place as many of them in the center as it is safe to do.

As soon as some of the best colonies have about 25 or 30 lbs. of surplus honey in their hives I commence extracting. This is a little sooner than I would like to commence; but if the first of our extracting is done a little too quick, the last of it will be just as much too late; and if we keep anywhere near up with our bees, we are forced to start a little ahead of them. I do not know how other localities may be, but here we rarely ever see 30 lbs. of honey in a single-story hive without at least ⅓ to ½ of it being sealed over. O. O. POPPLETON.

Williamstown, Iowa, Dec. 10, 1883.

[*Continued in our next number.*]

SHIPPING-RATES OF FREIGHT ON EXTRACTED HONEY.

A MOVE IN THE RIGHT DIRECTION.

IN JUVENILE for December, page 776, Edwin France writes of his troubles in shipping honey by freight. We have been in the same "boat," and the way we got the matter righted may help him or others laboring under the same difficulty. Our railroad is the Milwaukee, Chicago & St. Paul, and their freight schedule puts honey as 1st class, which from here is 58c. per 100 lbs. to Chicago. Molasses goes as 3d class, at 35c. per cwt., and if in 20-bbl. lots, 4th class, or 30 cents per cwt. Until last year we always paid 1st-class freight; or if we shipped a large lot, the station agent telegraphed for special rates, and then we could get rates at 3d class. This was quite a gain, being 18c. per 100 lbs., which on a crop of 10,000 lbs. would make $18.00 saved. But we could not always get the rebate, for sometimes we did not want to ship our whole crop at once, or to the same market; then we had no help, but had to pay the other 18c. and look happy.

Thinking there might be some way of righting this wrong, I determined to first try the general freight agent of the company; and then if that failed, to complain to our State Railroad Commissioner, for we have such an officer, whose business is to hear and adjust all differences. Well, I wrote a letter to D. W. Kyes, General Freight Agent, explaining the grievance, and also explaining the great change in manner of handling honey that had been made in a few years, stating every thing in as clear and compact form as possible, and requesting him to consider the matter. By the very next mail, if I am not mistaken, came an answer, saying, "You can ship at molasses rates hereafter," and an order was issued to all station agents on their road near here to that effect. This year I wanted to ship about 5000 lbs. at one time, and a neighbor (S. I. Freeborn) wanted to ship part of his crop, so we made one shipment of the whole; and as it made over 20 bbls., we got 4th-class rates to Chicago, which is 30c. per cwt., or a saving of 28c. per 100 lbs., or almost half of old rates.

There is only one trouble now remaining; and that is, the printed schedules furnished for station agents remain the same; and if the agent forgets, or you forget and do not see *how* the honey is billed, there is a show for you to pay old rates. We hope to get that changed yet. C. A. HATCH.

Ithaca, Wis., Dec. 24, 1883.

REPORT FROM AN A B C SCHOLAR DURING HIS SECOND YEAR.

FROM 1 TO 21 (CYPRIAN), AND 123 LBS. OF HONEY.

A. I. ROOT:—I shall now submit my second year's experience in the bee business: For an A B C student, I did much better than I expected. If the business holds out as well in the future as it has so far, I don't regret the time I have spent in the business. I commenced in the winter of 1882 with 12 colonies, which increased in the spring by natural swarming to 50. I put back 16 swarms, and two left for the woods. I have taken out 3000 lbs. honey—half comb, the other extracted. I sold down to 49 colonies in my home apiary. I have another apiary away from home that I worked for another man on shares, consisting of 39 colonies. As I took them late in the season, I got only about 400 lbs. of honey. All my bees are in good condition. I had one colony of Cyprians; the queen I got from Mr. E. T. Flanagan, in August, 1882. This colony was the first to swarm; it sent out a swarm the 18th of May, and about the last of May they sent out the second swarm, and they kept it up until they sent out four swarms, and would have swarmed again, but I prevented them. The first swarm from them swarmed three times, and the first from this swarmed twice. From this one colony they increased to 20, but made no honey from clover, but from fall bloom. I took from one colony 60 lbs. comb honey, and from another 63 lbs. of extracted. These were my best colonies. They would breed up a swarm while other bees in the yard would scarcely live. The imported queen and bees you sent me built up a strong colony, and are doing well. These are the principal points in my experience. I feel well satisfied so far, and have bright hopes for the future. C. M. DIXON.

Parrish, Ill., Dec. 24, 1883.

Why, friend D., your figures almost take away one's breath. I thought when friend Bliss, on page 21, reported 14 from one, and 200 lbs. of honey, that it was almost too large a story to put in print; but you come backing him up with 21 colonies from one, and 123 lbs. of honey, without mentioning a good deal more that you did not tell of. No wonder you feel satisfied. Perhaps it won't do any harm to whisper to our readers, that along with his report friend D. asked for an estimate on a carload of supplies for the season of 1884. Now, I can hardly think that our raw recruits will all expect to do as well as the above; but it demonstrates this: That there are possibilities in bee culture that none of us yet dream of; and even if some do make a start, and in a little while get discouraged and disgusted, it does not alter the facts given above. One more thing is coming out stronger with the wonderful reports we have had in the few days past; and it is, that with these modern improvements and appliances one may commence with scarcely more than a single colony, and close the season with a large apiary, and tons of honey. Our readers who care to, may find friend D.'s report of his first year with bees on page 9, 1883.

JONES'S ZINC HONEY-BOARD.

ADDITIONAL FACTS FROM ACTUAL EXPERIENCE.

I AM glad to see Doolittle comes to the front with Jones's honey-board, for it allows the criticisms of lesser lights with a little more grace. We, too, have had an experience with them; but after your indorsement of them, we were *afraid* to offer our objection.

Last spring we purchased two, at an expense (by the time we received them) of about 90 cents each; and when our hives were ready for surplus, we adjusted them to two hives for extracting, by simply removing the mats, and putting on the zinc, and then the second story full of foundation, or empty combs. In about a week we opened the hives to note result, and imagine our surprise to find the queen *above*, busily at work. We then moved all the brood below, together with the queen and all the bees; readjusted the zinc honey-boards with great care, filled up the second story again, and waited another week, when, to our disgust, we found both queens above, and hard at work as at first. We then removed the D. A. Jones honey-boards, and laid them upon the shelf, where they have had a peaceful rest.

It is just as well to say, right here, that these queens are hybrids, and are large and prolific. But our conclusions were about as follows: The zinc honey-boards *may* do well for queens that are not as prolific as we have usually found the hybrids to be; or they may do for a hive that is so constructed that the brood-chamber can be enlarged to suit the capacity of *any* queen, without disturbing the surplus arrangement. But we are of the opinion, that, if the zinc board is the *only* obstacle in the way of the queens entering the surplus, and she takes a notion to go in, she will *go*. We are also of the opinion, that a *wooden* honey-board, an inch thick, with the same size of holes, is better for excluding the queen from the surplus arrangement, for it is very evident that a queen will readily pass through a hole in a sheet of zinc, when she would fail in the attempt to get through the same size hole as long as her body. If you entertain doubts, try the experiment yourself. Cut two holes; one in an inch board that will just allow you to pass through by twisting your shoulders; and one the same size through a wall that is about as thick as your body is long, and then see if you don't abandon the second hole before you get through.

It occurs to me that the entrance-guard for excluding and exterminating drones, is a good thing; but with the knowledge of the queen's powers of diminishing her size almost at will, and on short notice, in order to accomplish her purpose, we can not have much faith in them for retaining her in the hive to prevent swarming; and our faith in them for that purpose — although we have not tried it — is less since our experience with the honey-board.

Kirksville, Mo. J. D. PEARCE.

Friend P., we are much obliged for your testimony, although I am considerably surprised at it. I confess that I have always been a little skeptical in regard to devices of this nature for restraining queens, for the same thing was tried pretty thoroughly when we tried them for fertilization in confinement. As several reports appeared, however, during the past season, showing that they answered the purpose of keeping the queen below, I had begun to settle down to the belief they did so, and I still think that many queens would be hindered by their use. — I have no faith at all in wooden separators for retaining queens, and not much for keeping out drones either; but I believe the perforated metal is a sure thing on *drones*, at any rate. Please let us bring facts forward, dear friends, with kindly and friendly feelings. Don't let us be in haste to "sit down hard" on anybody, even though their experience has been much different from ours. A good deal more charity won't hurt us.

FURTHER PARTICULARS FROM FRIEND HOBLER'S GREAT YIELD OF HONEY.

SEE P. 712, NOV. JUVENILE.

MR. ROOT: — You request me to give a detailed account as to how I got so much honey from my bees. The bees deserve all the credit. Had I done my part properly, I should have had nearer 4000 than 3000 lbs. In the first place, I let them make lots of brood in the upper boxes; and when I found that, I cut out enough capped brood to make several swarms, and made the poor bees fill up again with honey, which they did after awhile. Then some of my first caps had too small openings for the bees; and after wasting a good deal of their time, I gave them fresh caps, with large openings, and they went to work at once. Then again I was delayed for sections, and by bad luck, so that I could not always attend to them when I should.

With all natural swarming, as mine was, there was much loss of time from many swarms having only virgin queens, and in ways which all bee-keepers understand. They were originally Italians, but are now nearly all hybrids, which I think are the best for comb-building. I used only starters, even in the bottom boxes, so they had all their work to do.

Most of the farmers around here have from 2 to 20 swarms, and raise honey for their own use. It is worth about 8c. per lb. here, but if in good shape, double that in San Francisco. We use four sections to a cap, each section having 8 frames; and when full, weighing from 12 to 14 lbs. A filled cap holds 50 lbs. of honey — a convenient size to handle. I believe this has been a very good season for honey; but if all goes well, I will make a report again next year.

GEORGE HOBLER.
Hanford, Tulare Co., Cal., Dec. 4, 1883.

MAKING HONEY SELL.

Some very Sensible Facts and Suggestions from a Good Sensible Man.

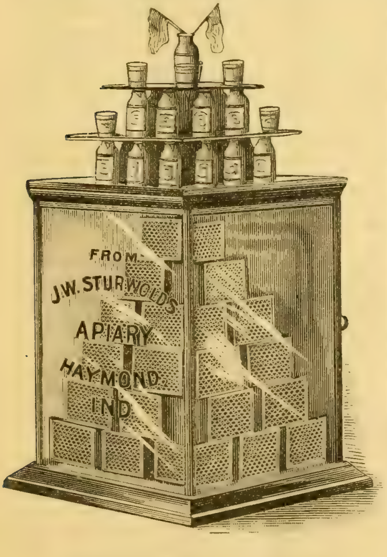
THE WAY FRIEND STURWOLD FIXED HIS HONEY IN A GROCERY STORE.

FRIEND ROOT:—So many of your correspondents are giving their plans for selling their surplus honey, through the columns of GLEANINGS, I will give you mine, and the way I created a market at and near home.

In former years I had trouble to sell my surplus honey at a live and let-live price at Brookville, the county-seat, on account of the farmers selling their dark strained honey at 5 or 6 cts. per lb., and comb in broken pieces smeared all over with honey, from 6 to 8 cents. I could not afford to sell mine at those prices, and therefore had to ship it to large cities, and I lost considerable by its being smashed while in transit.

I had often noticed, that if goods were placed in a show-window, or fine show-case, they would sell faster than when laid on the shelves; and the thought came to my mind, that if the pretty white sections filled with snow-white capped honey were put in a show-case, and set on the counter in a conspicuous place in a leading grocery, they would draw the attention of the customers, as well as other goods.

I at once ordered one made, 2½ ft. high, by 16 in. square at base and top, three sides glassed, and the fourth side a panel door painted a sky blue; on the pane opposite the door I had the inscription in gilt letters, shaded brown, as in the cut.



STURWOLD'S SHOW-CASE FOR HONEY.

I made arrangements with one of the leading grocers to have the case put on his counter, allowing him a commission of 20 per cent on all he sold. I filled it with one and two pound sections, arranging them in the shape of a cone, the 2-lb. sections at the bottom. On the top of the case I put 12 2-lb. jars of extracted honey, arranged in a square, and above them 8 1-lb. jars, with a pane of glass between them, and one jar on top of that, with a few ½-lb. tumblers on each corner. All the jars were labeled, and capped with tinfoil caps, *a la* Muth. This pyramid of jars was covered with fine white mosquito-netting, to keep the flies from soiling the labels and jars.

Friend Root, it looked pretty, and made me feel happy when I heard the grocer exclaim, "Well, well! if that won't sell, Mr. S., I'll give up the grocery business." Do I hear you ask if it did? Well, I should think so. In six weeks all my comb honey, 350 lbs., was gone, and he wrote me for more. You see, if we put our honey up in an attractive manner it will sell, and that at a good price too. I sold my comb at 20, and extracted at 15 cts. per lb. The honey placed in and on the show-case was not handled, for I furnished him enough in the shipping-case.

Haymond, Ind., Dec., 1883. J. W. STURWOLD.

Friend S., I do not wonder a bit that your honey was all sold; in fact, you have mapped out the way to sell any thing you want to sell; and not only do such neat exhibits sell the honey, but they make a business-place look pleasant, and make life pleasant as well. I especially admire your suggestion in regard to keeping flies off the bottles with mosquito-netting, although I would suggest pink instead of white. We place to your credit a five-dollar bill for your article, and the photograph you send along with it. By the way, friends, don't you think our engravers did pretty nicely on that picture right up there? I do; and I hope *they* will feel happy when they take a look at it, and see what I have said about them.

* * *

MICHIGAN STATE CONVENTION.

Feeding Extracted Honey Back to Get Comb Honey.

ALSO SOMETHING ABOUT PERFORATED ZINC HONEY-BOARDS.

THE following we clip from the proof of the proceedings of the convention at Flint, Mich. As both subjects have been considerably before us of late, the matter will likely interest all of our readers:

W. Z. Hutchinson being called upon, he read his report from GLEANINGS. He, too, had had a poor season; but as he had mentioned incidentally that he had practiced "feeding back," it brought down upon him a shower of questions. In feeding back 1000 lbs. of extracted honey, he had received 800 lbs. of comb honey. Had tiered up the cases of sections until they were three or four cases high. Had fed the honey as fast as they would take it. Looked the sections over about once a week, and removed the full ones. Some colonies did much better work than others. After the first trial, selected the best. No honey was coming in at the time of the feeding; did not weigh the hives; weighed only the sections and the amount fed. He had a friend who had fed back upon exactly the same plan, but his friend had not found it profitable. He thought that to know just how to feed back, at a profit, was not yet positively known.

D. A. Jones: The question of feeding back has but few advocates, for the reason that the majority have failed to make it profitable. To be successful in feeding back there must be no place in the hive in which the bees can store honey, except in the sections. Those hives must be selected that contain the most honey, or else those having but few combs, My plan of feeding is to elevate the hives in front, and pour the feed in upon the bottom-board. The bees do not carry the honey out of the hive; they must store it somewhere. Bee-keepers fail to make it pay, because the bees had an empty brood-chamber. Section boxes filled with fdn. had been given a colony at 9 A.M., feeding commenced, and the next day, at evening, the bees had commenced capping some of the sections. Fifty-two lbs. of honey was fed, and 44 lbs. of comb honey obtained. To get unfinished sections filled, and at the same time have the honey removed from some other unfinished sections, I put the sections that I wish emptied, over the hive, and the ones that I wish finished, in the main body of the hive, keeping the queen out of them by using perforated zinc.

W. Z. Hutchinson: Will not pouring in honey at the entrances incite robbing?

D. A. Jones: I do not pour it in at the entrance. I pour it down inside the hive at the back.

W. Z. Hutchinson: You speak of using perforated zinc. I should like to know something about that. Do the bees work through it freely? Is there any objection to its use, except its cost? and where is the expense? is it in the material, or in the preparations?

D. A. Jones: It is in no way detrimental. The bees work through it freely. I see no objection to its use except its cost, and its cost is in the preparations. Tin would be no cheaper, for the reason that it comes in smaller sheets, and the waste would be greater.

C. F. Muth: Mr. Jones sent me some perforated zinc. I thought there was more than I should ever sell. It was all sold long ago, and I have since then sold large quantities, and my customers are well pleased with it. They tell me that the queens never pass through it.

Rev. L. L. Langstroth: I tried experiments, years ago, to determine if there was a space through which the workers could freely pass, and the queen could not. I found that space to be 5-32, through which not even a virgin queen could pass — her shoulders, or, rather, the thorax, preventing her. The great difficulty in my experiments was, that the wood would shrink and swell and warp, and the bees gnaw off the corners, making the space wider. Had I had the modern perforated zinc, I should probably have made of it a practical success.

W. Z. Hutchinson: I have used honey-boards the past season, made of wood, the slats of which were 5-32 of an inch apart, and they answered every purpose, and are cheaper than zinc.

Rev. L. L. Langstroth: Do they not shrink and swell, or warp, and do not the bees gnaw them?

W. Z Hutchinson: No, sir. They are held in place by strips of tin, and are painted.

S. T. Pettit: I can hardly think the wooden boards would be better than the zinc. It would take some time to make them, while the zinc is all ready, and so lasting.

W. Z. Hutchinson: The wooden boards cost only a third as much as the zinc, and I prefer them.

ANOTHER REPORT, BY W. Z. HUTCHINSON.

The following report from friend Hutchinson was received after the above was in type, and hence we give both. There seems to be a little difference between the two, relative to feeding back.

Oh for elbow-room! oh for the whole of GLEANINGS, in which to describe the glorious time we had at Flint! but as I am restricted to a page, I must begin.

FOUL BROOD

Probably never received a more exhaustive discussion, and that, too, by such men as C. F. Muth, D. A. Jones, T. F. Bingham, L. L. Langstroth, and Dr. A. B. Mason. There is a mild and a malignant type of the disease. Before brood is sealed, both kinds have nearly the same appearance: but, after the mild, or "innocent" kind, is sealed over, if a comb is cut asunder, a watery substance runs out. That foul brood can be developed from decomposing brood was very positively asserted by some, and as strongly denied by others. Foul brood has been cured by salicylic acid, the starvation, and the cremation methods. If but few colonies were affected, nearly if not quite every one was in favor of the cremation method. A comb containing malignant foul brood was on exhibition, and, as the same hands that handled the frame were afterward used in handling other articles on exhibition, I should like to ask if it would not be advisable for every one who brought any thing away from the exhibit to either burn or boil, or at least scald the article. The discussion upon

COMB FOUNDATION

Was prefaced by the exhibition of a Given press, and the making of foundation in the presence of the convention. The exhibitor, Mr. R. S. Taylor, preferred the Given fdn., because the base of the cells was so very thin, while the walls, receiving no pressure, were soft and easily drawn. The fdn. could be made directly into wired frames. Mr. VanDeusen, of New York, said that many objected to the flat-bottomed on account of its hardness; such should remember that the heat of the hive softens the wax. He did not think that the flat-bottomed fdn. was any more objectionable than the round cell of the Dunham. Mr. Jones said, that in order to secure even sheets of wax, the dipping-board should be reversed each time it was dipped.

WINTERING

Was discussed in much the usual way. There was talk about chaff hives, chaff and other kinds of packing, about temperature, dry cellars and wet ones, about ventilation, long confinement, not much about pollen, but a little about the importance of proper food. There was a great saving in food in cellar wintering, and Mr. Jones had had bees confined six months, and they came out in fine condition, looking as though they could bear six months' more confinement. Prof. Cook said that they wintered their bees successfully in a cellar, in which the water often stood eight inches deep, while Dr. Mason said that it was improper food that killed bees in cellar.

ARTIFICIAL PASTURAGE.

Sweet clover was decidedly the favorite plant to sow for honey alone. Dr. Mason said that it grew luxuriantly, even in the busy streets of Toledo, O., and one of his neighbors had received 1000 pounds of surplus honey from it, and it was gathered late in the season.

THE GENTLEST BEES.

Mr. Jones said that the Italians were more gentle than the Syrians, but that there was a difference in the Syrians; those from Mt. Lebanon being the most peaceable. He preferred the progeny of a Syrian queen mated with an Italian drone.

QUEENS MATING MORE THAN ONCE.

Dr. L. C. Whiting had seen queens mate more than once before beginning to lay. Mr. Langstroth had seen the same thing, but had always thought that such queens were not really and fully fertilized until the last time they flew.

EXHIBITS AT THE STATE FAIR

Were discussed in such a manner as to cause at least one exhibitor to feel the blood tingling in his cheeks —but not for *shame*, however. To revise our premium list, and urge its adoption for another year, the following committee was appointed: H. D. Cutting, Dr. Kezartee, Dr. Mason, Mr. Muth, and Mr. Jones.

"SEPARATORS"

Was the heading to an essay read by myself, in which I took the ground that they were useless, if the following conditions were complied with: Have the sections less than 1¾ inches in width, 1½ if possible; fill them with Given fdn., and have the surplus department well filled with black bees, or Italians having a dash of black blood. Some of the above conditions could be omitted, and fair success attained; but the nearer they were complied with, the more perfect would be the combs. I believe the discussion that followed sustained the position taken.

SELLING HONEY.

Mr. Muth had built up a large trade by selling only pure honey, and had induced manufacturers of tobacco and of cookies to use honey, as he also had the manufacturers of pork and pickles. Both he and Mr. Benham distributed cookies made with honey, which were very fine.

FEEDING BACK

Extracted honey to produce comb honey was briefly touched upon. Mr. Jones and myself were the only ones present who reported as having made of it a success. I tiered up the unfinished sections, in the Heddon case, until they were three or four tiers high, fed the bees as fast as they would take the honey, and looked over the sections, and removed the finished ones about once a week. In feeding back 1000 lbs. of honey I had secured the finishing of 1200 lbs. of unfinished sections, increased their weight to 1900 lbs., and had left about 100 lbs. of unfinished sections. A friend of mine had " fed back" in exactly the same manner, but had *not* found it profitable. Thought there was yet much to learn upon the subject. Mr. Jones said that many failed to make it profitable because too much room was given in the brood-nest. The brood combs should either be few in number, or else filled with honey.

"IS BEE-KEEPING HEALTHFUL?"

Was one of the questions asked. Some had suffered from boils and eruptions of the skin, caused by bee poison. Dr. Mason had suffered from partial paralysis of the nerves of motion of his hands, and, in the fall, he felt pretty nearly "used up," as the effect of bee-stings. D. A. Jones had obtained temporary relief from rheumatism and neuralgia, as the results of bee-stings. Mr. Langstroth had suffered severely upon handling bees, after not having handled them for several years; but upon continuing to work with them, the trouble subsided. The remedies given for bee-stings are too numerous to mention.

PREVENTION OF STINGS.

Mr. Jones said that stings upon the hands and wrists could be greatly avoided by singeing the hairs from them, as the bees catch their feet in the hairs, become irritated, and sting. Smooth clothing, something like duck, was best; light-colored being better than dark. The best kind of a hat to wear is one of straw, with a wide slouching brim.

TO FIND A BLACK QUEEN.

Mr. Jones said: Shake the bees from the combs, letting them fall into the hive, and set the combs one side; then with a sudden jerk shake the bees to one side of the hive; and as they commence to spread out and run, buzzing for the entrance, the queen will come to the top, and start off with those long strides of hers, when she can be easily secured.

And now that we have Mr. Jones on the floor, why not let him tell

HOW TO REAR QUEENS?

By the addition of brood, make a colony extra strong. When the bees begin to seal the queen-cells, preparatory to swarming, remove the queen. If they swarm before then, remove the queen and put them back. They will build an astonishingly large number of excellent cells. Just before the cells hatch, remove them, and return the queen. The bees yet retain the swarming fever; but having no queen-cells, and no unsealed brood, they will not swarm, but will wait for the queens to lay, and then rear queens under the "swarming impulse," and from the egg. A second large "batch" of No. 1 cells is the result.

There were many minor topics touched upon, but want of space forbids even an enumeration of them.

ELECTION OF OFFICERS.

The officers for the ensuing year are as follows: President, W. Z. Hutchinson; Vice-Presidents, R. L. Taylor, James Heddon, and B. Salisbury; Secretary, H. D. Cutting; Treasurer, T. M. Cobb.

PLACE OF NEXT MEETING.

The convention adjourned to meet in Lansing, the second Wednesday after the first Tuesday in Dec., 1884; and I hope, friend Root, that you may meet with us " next time." W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., Dec. 19, 1883.

And I hope so too, friend H.; and I should have been with you this time had I not been so foolish as to contract a cold so severe that starting off at such a time would hardly have been a prudent thing. Very glad to hear you had such a pleasant and profitable time.

WHY BEES CAN NOT FLY 90 MILES AN HOUR.

A SUMMING-UP OF SOME OF THE EVIDENCE, AS IT WERE.

MONTHS ago, when friend Shuck and I expressed a doubt about bees being able to fly 90 miles an hour, I was rather surprised at the interest the subject seemed to excite; and when it was claimed that bees might be assisted in keeping their position above a train of cars by the movement of the cars displacing the atmosphere, and causing a partial vacuum which the returning atmosphere, by its elastic nature, hastened to fill, our scientific friend Phin very properly remarked, that "arguing in regard to matters concerning which our knowledge is incomplete," is very apt to lead to error. He thought the idea of such a vacuum "must be very amusing to any one who has the most elementary knowledge of the laws which govern the motions of aerial fluids." And then friend Phin left us without another word about the "fluids," so that the most of us, doubtless, did not know where the "smile" came in. But Mr. Shuck subsequently "sat down so hard" on the 90-mile theory and friend Phin's philosophy, that probably they don't care to hear more about it. But I promised to have a talk with the young folks, and allude to the matter now in an introductory kind of way.

In this discussion on the wing power of bees, Mr. C. E. Chace, a bee-hunter, on page 443, August GLEANINGS, 1883, produces the only real statistics which were brought forward, and his timing bees when in the height of their work gathering honey, gives them a rate of speed of about a mile in five minutes; and I have carefully noted, that whenever bees have been actually timed by persons following them in swarming, or tracing them to their hives by marking and following them, that this is about the speed they make. All who claim 90 miles, or very rapid flight for bees, have formed their opinions from observing their apparently rapid flight through the air. The eye is very deceiving; and when an object so small as a bee is watched, its passage through the air seems very rapid, while larger bodies appear to move slow, although going with great velocity. A bee, though moving through the air many times its length in a minute, moves no greater distance than a large animal; and, as all the real statistical evidence we have on the subject proves, not faster than an ordinary farm horse can gallop.

A bee is formed as a beast of burden, not for speed. It is broad, blunt, and strong. Let us inquire what was the design of the Creator in giving the world the bee. Fortunately, science has discovered the object of divine wisdom in this. Without bees to carry the pollen from flower to flower, many of the choicest fruits man enjoys would scarcely produce sufficient to maintain their existence. So also with the grasses that form our most valuable pastures. It requires millions of insects to accomplish this work, and it was therefore necessary that the bee should be endowed with instinct to propagate its kind rapidly, and with great power and industry to gather food to nourish the millions of young bees. Hence it is that the parent colony casts a swarm as soon as the family can spare it, and that swarm migrates a mile or two, when it makes a nest, and rears and casts off other swarms to do likewise. In the meantime, millions of flowers are opening on every side, needing the assistance of the busy insects to fertilize them, in order that abundance of fruit may be produced for the use of man and the lower animals.

Speed and carrying power are never associated in the same animal. The bee is essentially a creature of burden. Why should it be endowed with powers of speed to carry it 90 miles an hour? It has no use for such speed, and the Creator, who forms nothing in vain, has not given it speed, but a capacity to carry, and move comparatively slow. When friend Phin argues that a bee being able to carry a load of honey much greater than its own weight, when relieved of the load ought to increase its rate of speed in a corresponding ratio, he evidently ignores his own maxim, and it "must be very amusing to any one who has the most elementary knowledge" of the laws of gravitation, and the resisting power of the atmosphere. E. E. EWING.

Highlands, N. C.

HALF-HEARTEDNESS.

ARE WE GUILTY OF SUCH SINS?

SOME months ago, at one of our young people's prayer-meetings, our pastor said that one of his greatest sins was the sin of half-heartedness; and then he gave a good talk on the subject, and I have not got over that talk yet, and I hope I may never get entirely over it. I had long been thinking there was a great trouble somewhere, and that this trouble was also a grievous sin with many of us; but I had not made up my mind just what to call it. I suspect that it is a very prevalent sin among bee-keepers, and one that brings about many grievous troubles. I know it does not belong to those alone who are working for somebody else; for farmers and others who are working solely for themselves are guilty of this same sin.

Within the past few months I have been besieged by people, young and old, for a place in our new factory, to an extent that indicates a very great want among humanity in general; and I have been studying and praying over the means to meet this great want. Why are so many seeking employment? and at the same time they are thus seeking and pleading and begging for something to do, I happen to know that there is a great want, and a constant great want, or need, of competent men and women, for a thousand and one places in the duties of life. Why, then, can not this superfluity of labor fill the constant want for such labor? I suspect the trouble is the great and prevailing sin of half-heartedness. I was once inclined to think that the golden rule would prove a remedy for this half-heartedness; but when I discovered that those who work for me work with this same half-heartedness when they are working for themselves, I began to think that the whole trouble consists in a sort of mental laziness. When people find that they can get men or women who put their whole hearts in their work, then these men and women are in demand. Now, I do not want this paper to be a fault-finding one, and therefore I will take up some of the pleasant features of life, as well as some of the unpleasant ones that I am compelled to take up. Occasionally I have found both men and women here in the factory who seem to have a way of going into every thing with a whole heart. You doubtless know such people yourselves. Are they not pleasant to meet? They seem to have a sort of love for doing things well and accurately; and when they have made a mistake or omission, they are ready to make such a full-hearted apology that you are sometimes tempted to feel that the fault is perhaps fully atoned, or a little more, above what you have suffered from carelessness or neglect. I have mentioned some of their names in some of my writings.

When we were excavating our cellar, it was found necessary to have another scraper; and to get the dirt out of the way, it was necessary to have one at once. One of the men was about to be sent for it; but I told Mr. Gray that the directions were so very indefinite as to where it was to be found, that I feared they would not get it.

"Well, what shall we do?" said he.

I told him to send "Jacob." Jacob was brought forward, and told all we knew in regard to where he could find the scraper, and was also told the urgent need for one at once.

"All right," said he; "I will get it."

In a very short time it was on hand, and the dirt was being rapidly moved away. I asked him how he found it.

"Why," said he, "I just stopped and inquired at every house, after I got where you said, and kept going till I got it."

Now, that is one secret of why Jacob succeeds in almost every thing he sets out to do. He just keeps going until he gets it; and if men are waiting, he goes pretty lively too. He has been scolded sometimes for driving the horse too fast, but he never drives the horse any faster than he goes himself, according to his strength. In our work here we constantly employ a messenger boy, as we call him. This boy goes to and from the postoffice, and executes errands of a similar nature. Once in awhile we have to change messenger boys; and although almost every boy thinks he can do it all right, I have learned by sad experience there are very few who will not make us much trouble. Our letters to go to meet each train are put in a special pigeon-hole. Now, it would seem a small matter to take all these letters to the postoffice; but I have learned by experience that a new hand will almost invariably leave a letter or a postal card or two in the box, and sometimes some very important matter is thus left over. Again, when boys go for the mail, our packages are put in a large tray, or, rather, on a table with boards around the sides. You would think anybody of common intelligence would take the whole contents of this tray when he had learned that it was for us, and of course much of it important and valuable. Well, a good many boys will *leave* part of this mail, instead of taking it all. Last fall a messenger boy would repeatedly leave queens lying in this box. His excuses were, they were up in one corner, and he did not see them.

Now, this is not confined to boys alone. A year or two ago I raised a pretty good crop of rye, which was harvested while I was away at our State fair. Although an old farmer was employed to cut the grain, he skipped quite a little piece of it that he forgot. The ones who tied up the bundles also left a swath alongside of the field, that they did not see. I sent them out to finish raking and binding; and then when they drew the grain into the barn, they left a couple of shocks of grain that they did not see. The team was hitched up the second time to go and get them. After all, on looking over the work, several bundles were left scattered about the field until they were spoiled by the rain. Now, this work was done by three or four different individuals — those who were brought up on a farm too. It not only taxed my brains to look after them, and to pick up after them, but it discouraged me in my life work of trying to furnish employment for those who were constantly begging for it. I was obliged to say to myself, "I shall have to give up. I can not undertake to set men or boys at work who will do their work in such a half-hearted way as this." Since then I have watched farmers, to see if they work for themselves in such slip-shod, listless ways, and I am compelled to admit that they do. How anybody can labor hard to raise a crop, and then let it lie and rot, after all the labor has been expended on it, is beyond my comprehension. Machinery left out in the weather, going to ruin, is from the same piece.

Now, friends, lest you get an idea that this half-heartedness belongs to men only, I want to relate a little experience of yesterday. While reading the mail I ran on to the following:

> *Mr. Root:*—I wrote to you something like a month ago, for your terms on the Waterbury watch, series B, and have had nothing from you. Why is this? I know you used to be very prompt to answer. Please give me the very best on the above watch in quantities, in at least ½-dozen lots. I have just received a ¼ dozen from New York, and have disposed of them at a profit, and will await your answer before I make my next order, as I have always found your prices as low as the lowest.
>
> Your old customer, JNO. S. COOPER.
>
> Goodbar, Tenn., Dec. 10, 1883.

As soon as I got part way through, I spoke to one of the clerks: "Why, this letter came over a week ago."

I was assured that it did not; but I remembered feeling a little indignant to think that a request for prices had been overlooked in that way, and also that I carried it to the clerk who sends price lists, that it might have immediate attention. As she was absent, I put it under her weight. How did it come that it was delayed a week after so urgent an appeal for just common business courtesy? It came about this way, as I found after some questioning. As the man does not ask directly for a price list, the clerk who mails them carried it to the bookkeeper, to ask if that letter belonged in her department. The book-keeper glanced over it hastily, and decided that another clerk had better answer it. This other clerk was behind with her work, so it was given to me to read over again, to decide who should answer it, and here it was four or five days, after our friend's pathetic appeal — not even a price list sent him!

I do not know but I shall wound here in what I am going to say; but the wounding will be like pulling the sliver out of your finger. It may hurt more than to let it alone; but it will make the finger better eventually. Through all my business experience there have been complaints almost constantly from people, saying that they have asked for price lists, and asked for them repeatedly, and yet they are not sent. Over and over again have I had the correspondence hunted up, and the matter investigated; and it almost always results in showing that the clerk overlooked the request for a price list, or forgot to send it, or did not know that it came in her department, and such like excuses. I use the pronouns *she* and *her* because all this work is in the hands of the girls. It is not only young girls, but women of all ages, who are guilty of this kind of half-heartedness. Our price lists are gotten up with great pains and much expense. We pay hundreds of dollars yearly in advertising, that we may get applications for price lists. Several thousand dollars are also yearly expended in printing and arranging the names of those who want price lists; and yet after all this plowing and sowing and harvesting and binding, the ripe grain is allowed to lie and spoil, because of the half-heartedness of the clerk who importuned for something to do. I am glad to say, there are some exceptions to this. I know of a few girls who, the minute their eye had caught the contents of the letter I have given above, would have sprung from their seats, gone to the large basket of price lists, picked one up and addressed it, and put it in the mail-bag, with an expression something like this: "There! that man will get his price list this time, I'll bet, for I addressed it to him myself, and I know it is addressed correctly."

Right here, friends, let me remind you that clerks who do this (and who listen attentively to every expressed want in any letter, and who make it their business to scan the letter through, even though it be a long one, and see that every expressed want has attention) command large wages; and one who throws his *whole soul* into his work, and seems to have a sympathy and love for every customer intrusted to his care, I can afford to pay twice or three times as much as for a half-hearted or indifferent clerk. While going over the ground, it almost seems as if this sympathy and love for those whom we meet in business can never exist without a love to Christ. Now, please do not think me complaining, dear girls, when I suggest what should be done in all similar cases. In the first place, all who read the above letter, no matter where or what part of the factory they work in, should have felt an anxious solicitude for the rights of a misused customer, and also for the reputation of the establishment where they work, and should have said within themselves something like this: "Now, I do not know just who should write to this man, nor what answer should be given; but I do know it can do no harm to give him a price list, and I will do that anyhow, and give the letter to Mr. Root when he comes in." It is true, if laid away until I came along, even though I did come in five minutes, the matter might have been forgotten; but even if it were forgotten, the man had the price list anyhow, and so he would know there was somebody alive and kicking still, at the "Home of the Honey-bees." You may say that I ought to have a special receptacle for every thing needing direction from myself. Well, I have now a desk all my own, and I will at once have a weight put on that desk, under which all papers should be put requiring my immediate consideration. The clerk who opens the mail has such a weight, and I glance at it so often that my eye catches every letter within at least half an hour after it has come from the mails. I know, friends, that I am guilty of the sin of half-heartedness, and I am going to try to do better. Just another illustration:

A few weeks ago I wanted some eyelets for our loom. I gave a young man a bundle of strips of leather. Said I, "Take these to the shoe-shop, and have metal eyes put in each one, just like this old one I give you, only have them *a size larger.*" To impress it on his mind, I gave him a knotted string, and told him the size must be large enough to let the string through, knot and all. When he brought them back, the eyelets were exactly like the old ones, and he admitted that he only told them to make the new ones exactly like the sample. This sort of work, as you may know, is not confined to boys alone, for we have men and women, many of them who want work too, who will do just half of what they are told to do, when the latter half is by all odds the more important part of the instruction. You may say the instructions were too long — that they can not remember them. But, dear friends, the result is about the same when the instructions are in the form of a letter, in black and white, and I am sorry to say the instructions sent here are sometimes filled in that very way. We have tried clerks, and a good many of them would fill half an order, and skip the other half. What shall be done for half-hearted people? I have sometimes remonstrated in this way: "Dear friend, how would you feel, if, having sent your hard-earned money to somebody for a book, he should put it up for you in such a half-hearted way as to send you a dictionary when you wanted a book on bee-keeping? or suppose you sent for a smoker and the A B C book, and the clerk who got your letter should send the smoker and then distribute your letter, forgetting all about the book, that you wanted ten times more than the smoker?"

"Why, Mr. Root, I suppose I should get pretty mad."

There I had the frank admission, and yet this same individual might go on doing the same thing again. What shall be done with them? I have sometimes felt, when contemplating this kind of work, oh for more of the spirit implied in those beautiful words from our Savior, "Thou shalt love thy neighbor as thyself"! The one who did these things admitted she would get pretty mad, if used as she had used others, and yet this same person went on in the same way. Please do not accuse me now, my friends at a distance, of keeping clerks in responsible places who exhibit daily this half-heartedness. Of course, they have to be told very soon that I have nothing for them to do, unless they improve. I do not want this piece altogether a sad one, and therefore I thank God that I am able to tell you that the boys and girls, and men and women, can be cured of this grievous sin; but as with the sin of intemperance, I have been led to feel that almost the only real radical cure is to become converted. Becoming converted, in the popular acceptance of the term, does not always cure one at once of all these things. But any man or woman who is seeking counsel from God day by day, and toiling patiently and earnestly every day heavenward, will surely get the better of these evil habits. But many of those who seem pretty well along in the Christian life have a great battle to fight right here. A real, earnest, and vehement desire to do unto others as we would that others should do unto us, will effectually kill out half-heartedness in handling the property and business of others; and a desire to honor the name of our Lord and Master will kill out the disposition to be slothful and improvident about our own work. A good friend of mine once said he thought one great secret of my success in business, especially in employing so many hands, was my constant vehemence in saving every little scrap and odd or end that could be utilized in any way. My friends, are you among the half-hearted ones of this world? If so, I want to tell you, "Seek first the kingdom of God and his righteousness, and all else shall be added unto you.

FEEDERS AND FEEDING.

SOMETHING OLD ABOUT AN OLD SUBJECT.

WE see a great deal said for and against the various feeders now in use among the bee-keepers of this country. It is said, "Necessity is the mother of invention;" and as it was necessary for us to feed about 25 or 30 colonies of bees, we must have feeders; and as we could not make the bread-pan feeders work satisfactorily, we made, from half-inch basswood, some small boxes, 6x7 inches, and of different heights, from two inches to six, having floats to drop in the box on the honey. We have not had a bee drown with them; and as they take the honey from the shallow ones much the faster, we would recommend them to be made two inches deep. The matching may be made honey-tight by coating with paraffine. We made the floats by taking a piece of ⅜-inch board, cutting it about ¼ inch shorter than the inside of the feeder, then cutting three or four cross-cuts in it ½ inch deep, like Fig. 1, and slitting it then in ¼-inch strips. Space them ¼-inch apart, sliding ½-inch strips in the saw-cuts made, which should fit snugly, to make them keep their places, and then we have a float looking like Fig. 2.

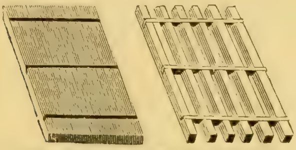


Fig. 1. Fig. 2.

HOW TO MAKE FLOATS FOR FEEDERS.

These feeders are equally good for water, but of course should be made larger for that purpose, and painted inside.

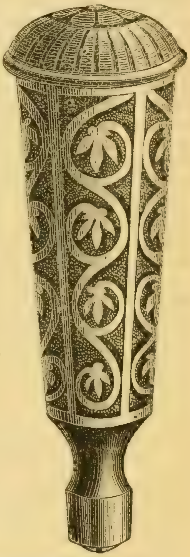
The honey crop for Saratoga County is exceedingly light this year, being about two-thirds that of last, as far as heard from. White clover gave us some honey and plenty of swarms, but the cold dry weather of August cut off our buckwheat harvest, almost entirely, so that swarms that issued in June were fed this autumn to prepare them for winter.

Saratoga Spa, N. Y. J. J. HOLLENBECK.

Friend H., although the plan you give for making a feeder is not new, still, as you present it, it seems to me it is worthy of consideration again. The objections to a box with a wooden float have been, that the floats get lost and broken; the box leaks after a while, in spite of paraffine, and it also gets soaked up with honey, and smells nasty. But perhaps all these defects might be remedied where one is careful, and sets them away when not wanted, as you do doubtless. One other objection to a deep box is, that while bees are feeding they generate an enormous quantity of heat, especially when they begin to secrete wax. If they are down in a box, this heat, or want of air, sometimes stupefies and kills a great many. By making the box one or two inches deep you will obviate this trouble. Such a feeder works very nicely when they are clean, and every thing is just right, and I do not know after all but it is about as good and sure a way as any. The Simplicity feeder amounts to pretty much the same thing, while it never leaks, and does not require any float. The reason why I use the bread-pan feeders in place of the Simplicity feeders is because they hold so much more, and because they cost so little.

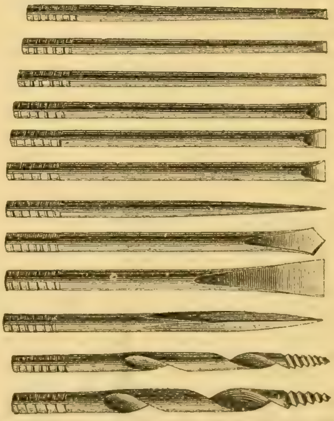
A POCKET TOOL-CHEST.

MULTUM IN PARVO.



HOW often it is that one wants an awl, a gimlet, a small screw-driver, or a reamer to ream out metals! and unless these tools are kept and carefully put away, they are liable to be scattered and lost. To avoid having many tools scattered about, the Miller's Falls Co. have devised a little pocket tool-chest, shown here. To look at the number of tools shown in the cut, one would think that one handle would not contain them all. Yet it does contain them nicely; and besides that, it has in the end a very beautiful little chuck that will hold any one of the little tools exactly true and perfectly solid, and yet they can be exchanged in an instant. This tool-handle will also hold any other tool, or even a needle, or any shaped awl you may wish to use. As the handle is iron, it is strong and substantial.

We have made arrangements so that we can furnish them for an even 35 cents; by mail, 5 c. extra.



USEFUL TOOLS TO BE USED IN A SINGLE HANDLE.

MORE ABOUT THE HARDY STRAIN OF BEES.

SOMETHING FURTHER FROM FRIEND ROBBINS IN REGARD TO THEM.

FRIEND ROOT:— After reading your criticism on my article, p. 741, Dec. No., it seemed to me that your remarks are calculated to create doubts and disbelief as to the hardiness of this strain of bees; that the cause of success in wintering will, in all probability, be found in some accidental cause, and not in the bees themselves. Now, friend Root, this is the very question that puzzled me. I did not at first believe but that my own bees and others were just as good and hardy as Mr. Shirk's, and that they *would* winter just as safely under like circumstances. Now, I would say that, at that time I was just where you seem to be — on the other side of the fence of disbelief. But after an observation and experience of four years with these bees, during which time I embraced every opportunity to criticise Mr. S. and his bees, I found that he had the laugh all on his side, and the conceit most effectually taken out of me. Friend R , I can not ask you to devote space to a detailed account of the many incidents that have transpired in their favor in the 4 years that I have taken to investigate this peculiar trait; yet I do not, even now, say that this characteristic is a fixed and settled fact; but I do say, that the evidence and proof of 4 years of skeptical investigation show that our success was due to the bees, and not to any accidental cause. This being our deduction, I will add only my motive and reasons for making it public.

1. Believing, as I do, that this strain of bees possesses greater power of endurance in withstanding the rigors of winter.
2. That this superior power of endurance contributes to a greater wing power, whereby they are able to accumulate a greater amount of honey and stores.
3. That this same power, being constitutional, it contributes to a greater degree of longevity, thereby securing stronger colonies from the same amount of brood.
4. That the attendant loss of colonies during winter is one of the serious drawbacks to successful apiculture.
5. That, as it is a rule among apiarians to introduce new blood into their apiaries, for reasons that are obvious, that all who wish may have the opportunity of testing the prospective good qualities of these bees, and at the same price that would have to be paid for other strains of bees.

Bloomdale, O., Dec. 19, 1883. R. B. ROBBINS.

Excellent, friend R. If you furnish your improved bees at the same price as the old ones, who will have any right to complain? They will certainly be worth all they cost; but at the risk of seeming perhaps unduly cautious, I wish to call attention to the fact that it will be a very difficult matter for you to keep this strain of bees from mixing quickly with other bees around them, and that it will be a very hard matter to hold them very long, unless you get queens constantly from one source. In fact, we could do comparatively nothing with the Italians, were it not that the yellow bands indicate where we are, and what we are doing. These remarks are made with the supposition that these bees are to the eye little if any different from ordinary Italians. Perhaps we may discover marks that will enable us to identify them, down through successive generations; but then, will these marks perpetuate the points we wish? It is true, we can rear our queens persistently from such colonies as seem hardiest and greatest honey-gatherers; but I know by experience that it is a pretty intricate matter to manage, so long as both queens and drones fly at least a mile or two in every direction.

SENDING QUEENS ACROSS THE OCEAN BY MAIL.

MORE ENCOURAGING FACTS.

OUR friends will remember, that in our last issue friend Benton made a proposal to those who would mail bees to him successfully. It seems that, in spite of my carelessness, the work was started after all. The following letter will be plain to our readers after what has been said on the subject:

Friend Root: — If the inclosed letter contains any thing of interest to you, or can be made to contribute to your valuable journal, it is at you service.

Huntington, N. Y., Nov. 20, 1883. F. W. BURGESS.

Mr. F. W. Burgess:— Success! The queen is yours! I am highly gratified at being able to report that *all three queens arrived alive!* Your letter mailed Oct. 15, arrived in Munich between 8 and 9 A.M. on the 27th, and was delivered at my house at 11 A.M. On the 28th (yesterday) the queens, mailed also Oct. 15, came, between 8 and 9 A.M., as the stamp shows, and were delivered at 11 A.M. I opened them in the presence of the postman who delivered the package. The following is the report:

No. 1.—28 workers; 8 dead and dry, not swollen. Two or three of the live bees with bodies slightly swollen; the rest, with queen, in fine order. Some flew out and tried to sting Mrs. Benton. Box not soiled by the bees. One hole-ful of sugar about half consumed. Other hole just begun.

Oct. 29th, 9 A.M., one more worker found dead. Oct. 29, 6 P.M., rest of bees and queens still lively. They have been given no other food than that in the box in which they came.

No. 2.—31 workers, 21 dead. Both living and dead bees completely daubed with honey, and the interior of the cage sticky. Most of the living bees were active, but two or three of them showing swollen bodies, yet could not fly on account of being daubed. But one or two spots were visible on the interior of the box. One hole of the candy was two-thirds eaten, the other still untouched. Caged her in a nucleus of Palestine bees, to see how she would appear after introduction.

No. 3.—40 workers. *Only one dead!* Queen and 39 live workers in prime order. Food about one-half consumed. Box clean. This box was opened before a closed window, and most of the workers had a cleansing flight. The queen also took wing, and alighted on the window, where she discharged a small quantity of fluid, a drop the size of three pinheads, perfectly transparent and liquid. After removing the single dead worker and the loose grains of dry sugar, this box was mailed at 5 P.M. of the same day (28th) to Wiesbaden (Prussia), some 12 hours by rail, with a request to return it by the next post, with a statement as to,—

1. Exact time of arrival.
2. Number of dead bees upon arrival.
3. Condition of live bees.

The boxes all contained considerable loose sugar; but as the wire cloth had but small meshes, little had escaped, I think, into the mail-bags. The weather is rather cold and damp here most of the time. The mercury now stands (6 P. M.) at 45° Fahrenheit. During the past few days it has ranged from about 45° to 60° Fahr. in North Germany; that is, on the seacoast. Here it is colder, because we are nearly 2000 feet above the sea-level, and the Bavarian Alps southward from Munich are covered with snow.

Well, it is for you to say whether you will have a Carniolan or an Italian queen. As it is now so late, I presume you will not care to receive her until next spring, so I make no attempt to get you either sort this fall.

I have just completed an article detailing some of my experiments sending queens by mail. I intended withholding the matter it contains from publication for a time, but shall now send it to GLEANINGS, Mr. Doolittle's article in the October number of that periodical having decided me in the matter. The fact is, the cage of Mr. Doolittle is nothing more nor less than that used by me as early as 1880, in sending queens from Cyprus to England and Germany. The journey from Cyprus to England takes ten to twelve days, being nearly 3000 miles. By reference to the *British Bee Journal* for July, 1880, you will find an editorial description of the condition of the first queen which I ever sent on such a long sea-voyage, and the first, I think, ever sent successfully on such a journey by water; also an illustration of the cage. Then by turning to page 237 of the *American Bee Journal* for May 9, 1883, you will find further mention of my success in sending by mail from the east.

This year the first queen I tried across the Atlantic was early in June (as will be seen from the letter I have just written for GLEANINGS), and that queen arrived in fine condition—thus was the first to cross the Atlantic alive, I believe. June 27th a second was sent to the same address in Canada. No report has come from her, although everybody supposes that Mr. D. A. Jones, to whom she was sent, is greatly interested in developing any thing that may be of service to bee-keepers. Since then I have sent a large number of queens by mail to America, and have met with fair success—in some instances extraordinary success, even in getting them as far west as Illinois and Minnesota. The improved cage, which was perfected only toward the end of August, and which I consider superior, on the whole, to any thing I have seen, will be described, and likely illustrated, during the winter some time. I am not sure but that the "Good" candy may prove better than that I make; but for the present I can not decide, as there must be a further trial of it for these long journeys. Were it allowed to send *great numbers* of packages of bees by mail here I would send all queens to America in that way. But at present it is only a small number comparatively that they accept as "samples." I have called attention of the postal authorities to the matter, and may secure further privileges.

Before closing this already rather lengthy letter, I must take the liberty of calling your attention to the choice of imported queens I shall offer for 1884. The following is the list, with prices, freight prepaid to New York City, and safe arrival guaranteed:

IMP. CYPRIANS AND SYRIANS.	Apr. or May	June	Jul and Aug	After Sept 1
I. Finest selected queens, each....	$12 00	$10 00	$ 9 00	$ 8 00
II. Fine prolific queens, each.......	10 00	9 00	8 00	7 00
III. Darker and smaller qs., each...	8 00	6 00	5 00	4 00

IMP. CARNIOLANS AND ITAL'S.	Apr. or May	June	Jul and Aug	Fall
I. Fine selected queens, each.......	$ 7 00	$ 6 00	$ 5 00	$ 4 50
II. Fine queens, each................	6 00	5 00	4 50	4 00

IMP. PALESTINE, OR HOLY-LAND QUEENS.

Prices same as for Cyprians and Syrians. No III. grade offered.

IMP. HERZEGOVINIAN, DALMATIAN, ROUMELIAN, AND HYMETTUS QUEENS.

Prices same as for Cyprians and Syrians. None of the III. grade offered.

I recommend the first five races about in the order named, though, all in all, I find it a little difficult to say which should be *first*—Cyprians or Syrians; at any rate, one or the other of these two is the bee for the experienced (above all for the professional) bee-keeper; while for beginners, amateurs, and such as haven't steady enough nerves to manipulate Cyprian or Syrian bees; also for such as have a "mortal dread" of stings, and those who suffer extremely from bee-stings, the Carniolans are to be recommended. Cyprians and Syrians are undoubtedly the *honey* races par excellence, while Carniolans are the *gentlest* of bees, and possess at the same time the prolificness and honey-gathering qualities of Italians — are even *more* prolific than Italians, stick to the combs like Italians, defend their hives (when not queenless), and are equal to the black bees in comb-building, disposition to enter boxes, etc. Their faults are: Considerable disposition to swarm, which, however, can be greatly controlled, as is the case with other bees, since with them it depends more upon their management; second, the same disposition to rob which the black bees show, except that, when honey is to be found, they are not as bad as blacks in this respect. When made queenless they do not defend their hives as well as Italians, Cyprians, Syrians, or Palestines.

The bees sold in America under the name of Holy-Land bees have received, as you doubtless know, much praise and also much criticism. As two *distinct* races, having very different qualities, have been mixed and sold under the same name, this is very natural. It is none of my fault that this has occurred, for I have always marked all boxes sent out either *Syrian* or *Palestine*, according as they came from north of the mountain-range extending from the Sea of Galilee to the Mediterranean (Mt. Carmel), or from the south side of this range. The latter are the *true Palestines*, or Holy-Land bees. They greatly resemble the Egyptians, being gray in color, though not fixed in type in this particular, some being yellower than others. They are prolific, defend their hives energetically, gather honey fairly, give much trouble on account of fertile workers, are in general cross — some of them being veritable little heathens to sting.

Of the four races mentioned last, I have only tried, practically, the Hymettus, or Greek bees (also called Cecropian and Attic bees). They are prolific, good honey-gatherers, quite cross, but can be managed with plenty of smoke. Herzegovinian and Dalmatian bees I know by reputation, and am thus safe in calling them superior to common bees and to Italians. Of Roumelian bees, I know nothing; but as I have an opportunity to get some of them next spring, and having reason to hope they may have good qualities, I shall try them. I shall get only a limited number of the four races last-mentioned, but can supply any number of Palestines. I get Carniolans from Carniolan Austria, and Italians from Northern Italy, being personally acquainted with many of the prominent bee-keepers of each of these two regions. To secure Cyprians and Syrians of the very finest grades, and in large quantities, it is my intention to make a journey to Cyprus and Syria this winter. Leaving here in January, via Italy and Egypt, I expect to reach Cyprus by the latter part of the same month; and go thence to Syria. As drones fly in those lands in March and April, I expect to raise a hundred or more queens myself. Then I will also bring 75 or 100 full colonies with me when I return, which will be in April, by way of Greece and the Adriatic.

You are now entitled to a seven-dollar Carniolan or Italian. Should you wish any other sort of a queen you can exchange by adding the difference, if any. On an order for six queens I make 5% discount; for 10 queens, 10% discount; 20 queens, 12% discount; 40 queens, 15% discount. Orders made now, and accompanied by the cash, by postal order, or by draft on Merck, Finck & Co., Munich, obtain a still further reduction of 10%. Thus; an order for ten fine Carniolans in May, prepaid now, will bring the cost of each one of the ten queens from $6.00 each, down to $4.86 each, the price for ten queens of this grade being $54.00 in April or May, 1884, or 10% less now; that is, $48.60.

When your bees came, Mrs. Benton remarked: "Well, there's a dentist with some ingenuity. If I were anywhere near him, I'd give him a job fixing my teeth." You see, the fact is, dentists this side the water are rather clumsy fellows, especially those in the far East, and we've both been obliged to let them "tinker" our teeth some; and in this, as well as in most other things, we have found it best to believe thoroughly in Americans, and in every thing American. **Frank Benton.**

Munich, Bavaria, Oct. 29, 1883.

MARKETING EXTRACTED HONEY.

I HAVE had a little experience in selling, or, rather, trying to sell extracted honey this fall. In September I went to the city of Columbus, with a bottle of honey as sample, in my pocket, and thought I would sell some; but on asking the grocers if they handled it, a short "*No*, don't want to sell any more at all," would be the answer. "We have had some of it; but there has been or is so much stuff sold as honey, that people won't buy it at all." One man said that if the bees could not take time to put it in combs he didn't want it. At a few stores I found some put up in 1 and 1½ lb. bottles, but they said it was slow sale, and several times I was told, and with all candor, too, the old tale of the markets being hurt by the "artificial comb being filled with syrup, and sealed over with a hot iron, and selling it for honey." About the same time I sold a 10-gallon keg of pure clover honey to a prominent grocer in Uhrichsville, and left a tin can for them to retail it out with. To-day I called to get the can, and was told that they could not sell the honey; that if they had not, they would not pay for it; that their customers said they did not like the taste of it, and after a little while it all turned to "sugar." Now, I told the dealer, when I sold him the honey, that he might tell each customer who bought it, that I would give $25.00 to any one who would find any adulteration in it, and he did so, but it was no use. Now, how are we to educate such people, who can not tell sugar syrup from honey? You might put both before them, and I will guarantee they could not tell which was the honey. I have tried to work up a market right at home, by selling the extracted at a low price, 10 lbs. for a dollar, and the first cry was, "Adulteration!" for I could not sell pure honey at so low a price. Lord, help the ignorant people.

A. A. Fradenburg.

Port Washington, Ohio, Dec., 1883.

ANOTHER CLOVER.

PEA-VINE, OR MAMMOTH RED CLOVER, AS A HONEY-PLANT.

THIS is a variety of clover that bee-keepers have generally overlooked in their search for a honey-plant to fill up the vacancy after basswood has gone, and before fall flowers commence. As I have had several good crops of honey from pea-vine clover, I will give my experience with it.

It grows and looks just like the common, or June red clover, only much larger and hardier, and it produces only one crop of blossoms in one season, and commences to bloom about the 15th of July, and continues four or five weeks right through the hottest, dryest part of the year, when the bees have very little to work on, and it hardly ever fails to produce a fair crop of honey.

The cultivation is the same as common red clover, only the seed must be saved from the first crop; if it is intended for seed, it is better not to mix any other grass with it, as it will cover all the ground. The poorest ground you have is the place to sow it, as it will thrive on the poorest, dryest soil, and mellow it, and fit it for another crop. When it is cut for seed about the 15th to the 20th of August, it leaves the land in an excellent condition for fall wheat, or a crop of potatoes the next season. I never had cut-worms, wire-worms, or white grubs injure a corn crop after clover. It is customary down east, where they wish to save the seed, to pasture it till about the first of June; but I have had better luck by cutting it off with the mowing-machine in the latter part of May, if it grew very rank. If the season is backward, I do not cut it off at all. It must not be cut or pastured after the stalk commences to joint or the blossoms form, or the seed will blast. In buying seed, be sure to buy of some one you can rely upon, as no one can tell by the looks the difference between pea-vine and common red clover.

I had 10 acres of pea-vine clover within 20 rods of 125 swarms of bees; they seemed to have about all they wanted to do; worked on it all day long for five weeks; bred up strong for winter, and filled their hives up full of the very choicest, whitest honey, and I got 40 bushels of nice seed.

Medina, O., Dec. 26, '83. **H. B. Harrington.**

I have for a long time felt pretty sure that, with all our pains and trouble in rearing honey-plants, we many times get something not even as valuable to the bees as the ordinary red clover. I have seen the pea-vine clover Neighbor H. mentions, and it has always been full of bees — Italians, blacks, and bumble-bees. As the investment is a safe one (for the seed always pays all expenses of the crop), it seems to me it would be better for us to employ our time and money a little more in developing our red clovers. I suppose you can get the pea-vine clover in your own vicinity. If you can not, we can mail it to you at 35 cts. per lb., postage paid, or we can send it to you by freight or express for $2.50 per peck, $4.50 per half-bushel, or $8.00 per bushel. We mention this because there are some localities where clover has not been introduced to any great extent.

BEES IN SEPARATE APIARIES.

From 260 to 529, and 23,000 lbs. of Honey.

REPORT FROM G. W. HOUSE FOR 1883.

AFTER filling our orders for bees, we had to commence the season with 260 colonies, all told (strong and weak ones). By drawing frames of hatching brood from the strongest, and giving to the lighter colonies, we had them all in about an equal condition by June first. We had an abundance of white-clover bloom; but owing to cold and rainy weather during the entire month of June, but little honey was gathered, and none at all stored in the sections. In fact, most of the colonies were in a starving condition when basswood bloom appeared; and with it a change in the weather. We were then confident that we should yet have a good yield of surplus honey stored in sections. Now for the results. At one apiary of 80 colonies, spring count, we made 105 new swarms, and obtained 9000 lbs. comb honey; at another apiary of 120, spring count, 118 new swarms, and 10,500 lbs. comb honey; at home apiary, of 60 colonies, spring count, 46 new swarms, and 3500 lbs. comb honey. In all, 269 new colonies, and 23,000 lbs. honey, all stored in the 2-lb. sections. We had no dark honey, the season being cut entirely off (for storing surplus) early in August.

To secure this amount of honey in that space of time, meant long days of hard labor, while the honey-flow continued. Of course, our work was lessened very much by use of our hives and surplus arrangements, which admit of easy and quick manipulation. I claim to have the simplest and best honey-rack in existence (or, at least, there is none better).

REVERSIBLE FRAMES.

After this season's work, I am convinced that the reversible frames will come into general use as soon as their simplicity and easy manipulations are understood, especially so with those who keep Italians, and work for comb honey; for extracted honey, they are no better than others.

My new method of rearing first-class queens, which has proved a perfect success this season, has also been a valuable feature in securing this amount of honey. It saves a great deal of time, which is very important at that season of the year. I may give you this method at some future time at my leisure. The bees are in fine condition for wintering; they are mostly packed on their summer stands; have 100 in cellar; temperature stands at 52°; will keep it higher later in the winter or toward spring, and will report success.

GEO. W. HOUSE.

Fayetteville, N. Y., Dec. 10, 1883.

Friend H., your report is indeed wonderful; for we all know it is a far greater task to take 260 colonies, and make them average almost 100 lbs. per colony, spring count, than to do the same thing, or even double the amount, with a few choice colonies of bees.—In regard to that reversible frame, will you please mail us a sample, that we may have it engraved if it has not already been figured in our columns?

A GOOD REPORT FROM NORTH-WEST WISCONSIN.

200 LBS. OF HONEY AND 14 COLONIES OF BEES FROM A SINGLE DOLLAR QUEEN, IN ONE SEASON.

AS I see no reports in GLEANINGS from North-West Wisconsin, I will give you a few items from my apiary, it being my third year's experience with bees. I put into winter quarters, Nov. 3, 1882, 23 colonies, all fair to good; lost 6 in wintering and spring dwindling; sold one, leaving 16 — 4 very weak, 12 fair. Three of the weak ones gave no increase or surplus. Total increase, 47; nine of them double colonies. Being short of hives I doubled up the weaker swarms in swarming-time, instead of waiting until fall. Figures for honey stand: 725 lbs. comb honey, all in one-pound sections, and 1140 extracted, nearly all from half-frames put on top of the hives, *a la* Dadant. Our honey the past season was all white honey, only sufficient fall honey to keep up brood-rearing.

My bees boiled over so fast during the last part of June and the first part of July, that I was reminded of the Growlery column; but the hybrids were ahead. I had one hive of hybrids which originated from a dollar queen procured of A. I. Root in May, 1882. It showed its first swarm May 29; June 9 it swarmed again. I then cut out all the queen-cells left; but in July it gave me two swarms more, making 4 swarms; the swarm that came out May 29, which I call No. 2, swarmed four times; the swarm that came out June 9 swarmed four times. The first swarm from No. 2 swarmed twice, making 14 swarms from one. I also got a little over 200 lbs. of honey from them — 60 one-pound sections; many others partly filled, and 140 extracted; the extracted was all taken from the old swarm or hive. Now, let us see the money products of that one swarm. Say 14 swarms at $5.00 per swarm, would be $70.00; 200 lbs. honey at 12½ cts., $25.00; total, $95.00.

As I am a boy, only sixty-seven years old, I will submit a conundrum: Was or was not that queen that went out with three swarms the mother of four generations — grandmother and great grandmother as well?

Z. BLISS.

Lucas, Wis., Dec. 11, 1883.

Friend B., I do not know but that friend Hutchinson and some others will pitch into us again, for publishing big reports; but I for one am glad that we have positive proof that bees may do well in your locality. The credit of the dollar queen does not belong to me, I think, for we sold perhaps ten times as many as we raised ourselves. If you intend to submit the conundrum to myself, I think I should say you did have four generations of bees from your dollar queen.

Heads of Grain,

From Different Fields.

TARRED PAPER FOR REPELLING THE BEE-MOTH.

I HAVE a little experience to relate in regard to preserving combs from the ravages of the moth during spring and summer months. In the spring of this year I had probably eight or ten hives filled with combs taken from swarms which had died during the previous winter, and some empty combs besides, from which the honey had been extracted. These frames of empty comb were all kept in a warehouse used for storing sash, doors, blinds, and tarred paper. I examined these frames at intervals during the summer, but could never find the trace of a worm. From this I conclude that bee-keepers need have no trouble with old combs, if they keep in their vicinity some tarred paper, or its equivalent.

Adeline, Ill., Dec. 14, 1883. W. A. HARRIS.

Friend H., I am inclined to think your experience was more accidental than from the presence of the tarred paper, although the latter would be very likely to repel bee-moth as well as other insects. I have often seen combs left exposed in an open place such as you mention, without any detriment, during the warm season; but either the moth did not happen to find them, or else the combs were separated so that they didn't find a convenient lodging-place. It is to be remarked, that having the combs put a little way apart is a pretty sure safe-guard, while sticking them up one on top of another will be almost sure to have them converted into a mass of webs.

CASH WITH ORDER.

Friend Root:—I am in your A B C book; I also enjoy GLEANINGS, and have been but a few months in the society of "queens." It seems presumption, therefore, in me to advise or suggest to you who teach the thousands. Still, I am impelled to ask, why do you not adhere strictly to your advertised *pay-down* system, and save all of the W. W. Kessler and like troubles? JOSEPH CADWALLADER.

Forsyth, Monroe Co., Ga.

Friend C., if I am correct, our price list states that we require cash with order from those with whom we have had no previous deal. Many of our customers are now personal friends whom we have known and traded with and corresponded with for years. In fact, we know them almost as you know old friends in your immediate neighborhood; and to refuse to accommodate them as neighbors should accommodate each other would be a pretty hard matter, even if it were right for us to do so. Again, the prices of many things are changing so much that the money sent is very often a little more or a little less than the price of the article. If a customer sends too much, to be sure we might return the balance with the goods; but a great many times they would prefer to have it placed to their credit. At some future time, if their money should lack a dollar or two, it would be pretty hard to refuse to send goods when they were urgently needed, just because the money was not quite enough. Bee-keepers are a friendly and neighborly sort of people, and it has seemed to me, after considering the matter carefully, there is no other pleasant way of adjusting business than to open accounts with those whom we know to be worthy of accommodation. Of course, this necessitates a vast deal of correspondence—the worst feature of the whole matter by far being to make those talk or write who won't answer postals of inquiry. I wonder if those who will permit us to write again and again without making any reply, realize the amount of trouble they cause by so doing. If we have other bee-keepers at the same postoffice, we have no recourse but to ask them if they know such a man. If there are none such, we have to write to the postmaster; and I assure you, friends, it is not a pleasant thing to do, to be obliged to ask your postmaster if he knows such a man as you are, and whether or not you are responsible. Once in a great while he says the person is dead or has moved away. But in the great majority of cases, the trouble is simply the disease of procrastination.

ANOTHER EVIDENCE IN FAVOR OF ABUNDANT VENTILATION.

I have wintered without loss for the last four years. My bees in single-walled Langstroth hives, with ⅞-inch pine honey-board, were placed on shelves in the cellar under my house, with the cover over the honey-boxes taken off, and left off the whole winter, from fall till spring. No honey-boxes were on, but the middle slat on the honey-board was removed during the whole time that they were in the cellar. From the middle of January until the middle of March my family were away from home all the time, and no fire built in the house during the time. I used to visit the bees every Sunday, and the mercury was standing at 32°, with hardly any variation during that time. I should have been glad to have it warmer, but the bees came out all right as it was. There were openings at the bottom of the hives, in front and rear both.

NELSON HUBBARD.

South Strafford, Vermont, Dec. 8, 1883.

In the above case, you notice, friends, that the bees were saved by abundant upper and lower ventilation, even though their wintering cellar stood as low as the freezing-point. It seems to me it is now pretty well demonstrated, that abundant ventilation will enable bees to go through where they would at least have perished without it. Sometimes they winter when pretty closely packed, I know; but the evidence is altogether in favor of large entrances left open, holes left open above, or something equivalent.

SOME PLEASANT WORDS FROM THE A B C CLASS.

Friend Root:—You are interested, I take it, in the success of your A B C pupils, and I must tell you how well we prospered—for beginners. Two years ago we had a swarm of bees given us. During the following winter they nearly all died, so that there was but a mere handful in the spring. But we had the combs, and in this emergency we sent to you for the A B C book, a queen, and half a pound of bees. We followed your instructions implicitly, and in the fall we had six very strong swarms, with hives full of winter stores, and about 30 lbs. of surplus honey, and bee-keepers here say it was a poor year for bees. Our success this year has given us confidence in ourselves and our guide, and next year we mean to get a lamp nursery, and some rubber gloves for the "guid wife," and see what we can do. It seems as if bees must do well in a country where they gather honey from the time maple blossomed until the first of November. There were but three days this summer that bees failed to find honey. We have studied the A B C until we know it by heart; and long may the author live and prosper.

Fairview, Dak. G. L. HUBBARD.

REPORT FROM PENNSYLVANIA; ITALIANS AHEAD AFTER ALL.

Our yield is not very good; yet it may be fair, Pennsylvania not being a noted honey-producing State. We went into winter with 56 colonies; came out with 56. We commenced bee-keeping in the spring of 1877, through the influence of a sample copy of GLEANINGS; never lost a colony in wintering, although the winter of 1880 nearly depopulated a few. The present crop is 2427 lbs. of salable honey, of which about 2000 lbs. is clover, the remainder apple-blossom, locust, poplar, and buckwheat. Number of stocks, 61. Our honey is very nearly disposed of, at from 16 to 20c per lb. The readers of GLEANINGS may remember my expressing my doubts as to the superiority of the Italian over the black bee. The experience of the last several years has decided that question satisfactorily to me, in favor of the Italian. J. H. JOHNSON.

Middaghs, Pa , Dec. 10, 1883.

A GOOD REPORT, AND SOMETHING ABOUT PAILS.

I went into winter quarters in the fall of 1882 with 22 colonies; came out in the spring of 1883 with 12; mostly weak, and in bad fix from the effects of dysentery. I increased to 26 colonies, and got 2200 lbs. of honey. About 500 lbs. of it was in 1-lb. sections; the rest was extracted; about ¾ of my crop was fall honey, from buckwheat and goldenrod. It is the best quality of late honey that I have ever raised. My bees appear to be in better fix for winter than ever before. Those 2 and 3 lb. honey-pails you sent me are admired by everybody — especially the large pails. I see the grocerymen sell about 3 of the large raised-cover pails, to one of the 2-lb. Jones pails. I don't want any more of the latter, as I don't think they are neat enough. W. L. MILLER.

Chariton, Iowa, Dec. 7, 1883.

A QUEER FACT ABOUT BEE-STINGS.

A grandson got stung last summer near the eye, and could not have liniment applied (so thought), because so near the eye. It closed the eye several days, and nearly closed the other. In a few weeks after, he was stung on the great toe by a bumblebee, and in a few hours his eyes were swollen nearly as badly as the previous sting. Perhaps you can account for it. It is rather strange to me.

HENRY BAKER.

Cromwell, Iowa, Dec. 19, 1883.

Friend B., I have often noticed this queer phenomenon, although I do not think that I have before seen it mentioned. After a bee-sting that has swollen considerably has got nearly well, or so that the one who was stung has perhaps forgotten all about it, another sting on another part of the body will cause the first one to swell again, much as it did in the first place. I presume it is because the poison goes so quickly all through the body; and where one part has been recently suffering from the effects of the poison, a very little more of the same or similar poison aggravates the disorder. Sometimes a sting on the hands will cause a swelling on the face, or about the eyes.

HOW LONG WILL BEES LIVE IN A HIVE WITHOUT CHANGING THE COMBS ?

A few years ago I transferred a colony of bees for a friend, putting in the frames some very old and heavy combs. During a visit to them a few days afterward I noticed at the entrance an unusual quantity of debris from the old combs. On examination I found that the bees had torn down the cells on a great deal of comb, and some of them were busy tearing down the remainder, while others were equally busy rebuilding the cells with new wax, using the septum of the old comb for foundation for the new cells. This I think will explain why bees will live 20 to 28 years in the same hive, as mentioned by Benj. Veach on page 756, Dec. No.

W. L. MOORES.

Cyruston, Lincoln Co., Tenn., Dec. 10, 1883.

I am aware, friend M., that bees often tear old combs, and scatter the litter on the floor-board of the hives; and, if I am correct, the young bees especially are addicted to this kind of mischief, when they have nothing else to do — that is, when they get no honey, and brood-rearing is not going on vigorously. I have sometimes thought they tore it down because they were displeased with it, and again I have been led to think they did it without any particular end or object in view. I infer the latter, because they took this same old black wax and built combs of it again, as soon as honey began to come in so that they needed it. Combs are changed about almost incessantly, and they are tearing down and building up a great part of the time. If you wish to see how much of this work is going on, just set a little colony into a clean new hive, and see how much litter you will find on the bottom-board in the course of an hour or two.

FROM 16 TO 51, AND 3600 LBS. OF HONEY.

I commenced the season with 6 strong and 10 weak colonies, being reduced the lowest I have been for years; and if I had supplied all that wanted bees, it would have taken twice as many as I had left. I increased to 51, all of which went into winter quarters strong, and most of them with a surplus of honey. Five or six are short. I shall commence to feed some time in January. Extracted 2400 lbs., and took off 1200 in 2-lb. sections, making 3600 in all, besides a few partly filled sections. W. H. BALCH.

Oran, N. Y.

There is a moral in the above, friends, and that is, that even if your bees die out so that you almost have to commence over again, remember that by skillful management your hives may be replenished wonderfully quick. Friend Balch promises to tell us how he did this, in a future communication.

WARM HIVES WITH LARGE VENTILATORS.

In December GLEANINGS, page 740, Mr. Hayes says: "What is the use of a warm house, if we leave the door wide open ?" That called to mind what I used to think — "If a farmer has a double-walled, frost-proof cellar-wall, but by chance leaves the door and ventilator open at a zero freeze, his fruit, etc., will all be ruined." For many years, in winter, while I am in bed, the snow sifts in my face, At 26° below zero I bounce into bed and cover over my head, but soon have to uncover my face. Why have good quilts on, if my face is uncovered? They are a necessity for comfort and health. The frost-proof wall is to keep above freezing in cellar; a good house (hive) with door open is to winter bees in safely; that is why so much writing and ado in the North, "to winter bees safely." How true your closing comment is on same page! The single-walled hive gets warmed up in winter or spring when the sun shines on it for several hours at a time; but how is it for several hours before the sun comes up, or when several windy and cloudy days come at a time? Again, if we have melting snow or rain and then it freezes ice an inch thick on hives and every thing else for days, as we get it here, what will you do? I have no chaff hives; but last winter I had 8 hives packed in chaff, entrance wide open 3x5 in., with a 2-inch hole in the bottom-board, straw under. I left them that way till in May, warm all around, and they did about as well in summer as any. Will heart's-ease honey granulate? E. PICKUP.

Limerick, Ills.

Who can answer about heart's-ease honey?

FOUL BROOD.

Foul brood seems to be threatening more trouble than it has ever made before. It has cropped out in several places during the past season. Many times it was obtained in buying bees—the person selling them being evidently ignorant of the matter, and the great harm he is doing. I am repeatedly asked what advice to give in the matter. I have a good many times referred the inquirers to friend Muth; but I fear we shall overtax both his time and his patience. Here is a sample:

We bought five hives this spring, and this fall three of the five have foul brood. I have taken out 9 frames, and the young queens kept laying later than any of my others, 21 in all. What would you advise me to do with them? There are no other bees in the county, and I want to build up a nice little business; they are all stowed in a room with sawdust walls, or between the walls.

C. C. BRIGGS.

Will Mr. Muth be so kind as to tell our friend what to do, and thus answer a good many others?

ON WINTERING BEES.

Inasmuch as there is so much difference in localities in wintering bees as to the mode of preparing them for winter, I will give my plan and result in our locality.

WHAT I DON'T DO.

I don't unite weak colonies to make them winter better. I don't cut any holes for winter passages. I don't feed in the fall to stimulate breeding. I don't weigh their honey to see how much they have. I don't guess at what they have. I don't try to find out whether they have any. I consider that their business. I don't take off the honey boards. I don't contract the entrance. I don't disturb them after the honey season is over, but let them severely alone. Last, but not least, I never lose any worth mentioning. I wintered eight nucleus hives, the cold winter of 1880, with no protection except chaff on top, two in a hive, that came out the nicest of any bees I ever had. I winter in one-story Langstroth hive, single wall, nine frames. Winter on summer stands. Before the honey season is over, when all of the brood is out of the outside combs, I take the two outside ones out, and put in division-boards. I don't do any thing more to them till after the honey season closes, which is about the first of October. Then I put chaff or cut straw on them, and let them alone. My bees always spot their hives some after long confinement, but I never lost any by it nor by spring dwindling. R. ROBINSON, 121.

Laclede, Ill., Dec. 18, 1883.

PERFORATED ZINC.

Bro. Doolittle's experience with perforated zinc, or, as it should be put, D. A. Jones's plan of obtaining comb honey, reminds me quite vividly of my Waterloo, nearly ten years ago. The plan was identical with the Jones plan; only two comb-boxes were used, and I had to use slats instead of perforated zinc. That theory will do to dream over till such time as it may be tried, and no longer, unless the operator be more skillful than I. Once I had four brood-nests in the same hive, queen-cells in three, pollen in my boxes, and plenty of disgust plainly marked all over my countenance, when I had expected self-satisfaction to shine forth as a beacon to those who were less thoughtful than I. My hives are large, and the size is regulated by two division-boards. The width of my hive is 20 inches, length 20¾ inches, depth 12 inches. When I wish to arrange for extracted honey, I spread the brood; that is, I place three frames of brood on each side of the hive outside, and fill in the middle with empty combs; now I am nearly certain to find queen-cells on one side or the other, within the allotted time, and have had the queen hatch, mated, and start on a race against the old queen for the middle of that hive. The same effect can be brought about by a similar use of brood in a two-story hive, especially if the close connection of the upper and lower frames is cut off in any way. I have no doubt but these extra large colonies and extra large yields are the product of more than one queen, resulting from some manipulation similar to the above. Certainly, if Bro. Jones can get comb honey by that method, he has a wrinkle or two that some of us don't know. J. M. SHUCK.

Des Moines, Iowa, Dec. 21, 1883.

Now, friends, we have had two adverse reports in regard to perforated zinc; but if I am not mistaken, there are many others who will come forward and tell us how it is to be used. I am pretty sure there are a good many, at least among our Canadian friends, who have succeeded finely with it.—I, too, have often seen two queens in one hive, where, by some accident, the brood had been separated by two or more combs containing no brood.

THE FARMER'S MOST ACTIVE ENEMY.

The above is the way the *American Agriculturist* puts it; but I do not know but we might truthfully say, the bee-keeper's most active enemy, or even mankind's most active enemy. I always feel glad when I get a subscription for the above paper. The reason is, I am sure somebody is going to have some good done him. Here is an item under the above head we clip from their January number:

This destroyer of the farmer's hard-earned savings is on every farm, in every house, and never leaves us day or night, summer or winter. It damages at midnight, and destroys at noonday. The marks of its teeth may be seen on the pasture fence, it is wasting the barn-sills, and pegging away at your sulky plow. Even iron and steel are not exempt from its ravages. The plow comes in from the field bright with use; next week it needs several hours of work and worry to make it scour. You lend your new bright handsaw to a neighbor, who kindly leaves it lying on the grass a night or two, and its condition when returned mars its usefulness, and lessens your faith in human nature. A careless farmer leaves his new mower in the field, or the fence-corner, until next summer, by which time this fell destroyer has damaged it one-third of its value. The sections are black with rust, the journals are all gummed, and the wood-work is penetrated and weakened in every part.

Those who have read thus far, will have recognized this enemy as rust, rot, or decay, the most active promoter of which is oxygen. This invisible gas forms one-fifth of the entire bulk of the air, and eight-ninths of the weight of all the water on the globe. While of the greatest value in the economy of life, it is also a destructive agent of the most untiring kind. Yet its ravages are easily checked in many instances. A thin covering of some oil will perfectly protect steel and iron from its action. A coat of paint good enough to keep water from soaking into wood, will protect it from decay almost indefinitely. In the far West, where building is somewhat more expensive than in the East, farmers are disposed to leave their farm-tools out of doors the year round. Such men are making a great mistake. If they are not able to afford shelter for their tools, they can buy a gallon of paint, which, if carefully applied to the wood-work, will go a long way toward protecting it from decay. It is certain, that if the farmers of any State would expend one thousand dollars for paint next year for this purpose, they would save ten thousand now likely to be utterly lost. If any one thinks this overstated, let him look around among his neighbors, and see the hundreds and hundreds of dollars' worth of machinery that is going to ruin from decay, which a little paint would prevent. Here at least in the protection of farm implements a penny saved is as good as a penny earned.

PROF. S. R. THOMPSON.

I do not just see where the paint is going to fix the handsaw so the neighbor can leave it in the grass several days; but for all that, the above item is a grand good one; and while I think of it, we can send our readers the *American Agriculturist* one year for an even $1.25, if it will be any accommodation to you.

PLANTING BASSWOODS.

I made a mistake in the size of my basswood sprouts. Instead of from 8 to 15 inches, it should be from 1 to 3 feet, and "all orders to be in on the 1st of March" should be the 1st of April.

HENRY WIRTH.

Borodino, N. Y., Dec. 23, 1883.

Friend W., we correct your advertisement with pleasure; and if you will allow me to advise a little, I should recommend you to provide yourself with plenty of competent help to take up those basswood sprouts, and ship them; for if you can send out young basswood-trees at ten dollars a thousand, that will run from one to three feet high, you will probably find yourself with your hands so full of orders that you won't know what to do. I am very glad indeed that you can furnish them so cheaply. As you will observe, it is about half what we offer them for; and while I am about it, I want to say I have been very much troubled at the way the basswoods are being taken off, to make section boxes. Unless new forests are planted out, and that right speedily, our industry is going to receive one of the severest blows it ever had. You will see by reports that many of our bee-friends get more basswood honey alone, than from all other sources. Now, this is a very important item. Planting out young forests of basswoods would fix the matter, without a bit of doubt, and the speculation will certainly pay for timber, aside from the honey. Who will make arrangements now to plant out basswoods? and who besides friend W. is prepared to furnish them? They ought to be shipped from a great many different points, to avoid heavy express charges from long distances. Now, then, young friends, you that are wanting something to do, and are spoiling, perchance, for an opportunity to raise honey-plants surely and safely, just go into the basswood business. If you look about you, very likely you can find young trees near home, and thus save the expense of purchasing and shipping, both. You will find them in almost any woodland where stock is kept out; for cattle and sheep will eat young basswoods almost as they would growing corn.

BANISHING BEES BY ACT OF LEGISLATURE.

In reading GLEANINGS, I see an article, page 774, Dec. No., entitled, "Banishing bees by an Act of the Legislature." This act is not the only one of the kind, as there seem to be other places where the wise (?) fathers or city councils ordered the bees to be removed out of towns, on account of doing too much damage on fruit-trees and grapevines. I refer to Mound City, Pulaski County, Ill. And this, in the nineteenth century! Very likely there is the same motive here as in the Monmouth County case — personal spite and enmity. M. R. KUEHNE.

Cairo, Ill., Dec. 24, 1883.

NOT BY MIGHT NOR BY POWER.

I regret the spirit of the remarks of D. H. Tweedy on temperance, in JUVENILE, if I understand him right. Surely it is "not by might nor by power, but by my Spirit, saith the Lord of hosts." The Duke of Wellington said, "My lords, I have passed more of my life in war than most men, and I may say in civil war; and if I could avoid, by any sacrifice whatever —if I could avoid, even for one month, a civil war in a country to which I am attached, I would sacrifice my life to do it." HANNAH W. WILLIAMS.

Springville, Linn Co., Iowa, Nov. 5, 1883.

FERTILIZATION IN CONFINEMENT.

Several of the friends are taking up this matter again, and among them our friend Good pencils on the margin of a postal card as follows:

I will next season have queens fertilized in confinement, and have it done successfully too. Now see if I do not.

When such statements come from such *Good* authority, it may be worth while to consider the matter a little.

A "STUNNING" REPORT FROM BEGINNERS.

My brother and I went into the bee business one year ago. We put in the bee-house 40 swarms; lost 13 and the rest were in poor condition; but we had a good season. We extracted 3000 lbs., and had 60 lbs. of comb honey, and increased to 42, all in good shape. M. M. RICE.

Boscobel, Grant Co., Wis., Dec. 8, 1883.

FROM 24 TO 49, AND 1745 LBS. OF HONEY.

Last fall we had 32 colonies of bees; lost 6 during the winter; two others were very weak. The past summer they increased to 49 colonies. They gathered 11 gallons extracted honey (which at 11 lbs. per gallon equals 121 lbs.), and 1624 lbs. comb honey in one-lb. sections, making an average of 67 lbs. comb and extracted honey together, gathered by each colony, or less than a fourth of what they did last year. We never saw our bees crosser than they were this summer; veils were indispensable.

Will bees pay in Southern Dakota? We had the pleasure of meeting your brother at his prairie home near Mitchell, D. T., on the 11th of Nov. I suppose you have had the same pleasure in Ohio ere this. We expect to make Dakota our home after a while, and will be glad to hear that bees do well there.

J. S. WILSON.

Penrose, Ill., Dec. 6, 1883.

My brother asked me the same question, whether we had many honey men in Dakota. For answer I referred him to our subscription list, where we have perhaps 20 or 30 names; but I believe we have as yet had but few reports from Dakota, and none that I know of particularly encouraging. Who can give us a good honey report from that Territory?

FROM 3 TO 7, AND $61.90 PROFIT.

I commenced the season with one weak colony of blacks and one 3-frame nucleus, bought of E. T. Flanagan, which reached me May 11, and I increased it to 4 strong colonies, and it made 25 lbs. comb honey. The black colony increased to 2, but I got no surplus from it, and then I bought one swarm of blacks. I now have 7 good strong colonies, which I value at $75.00, as I could have sold them for that. They cost me, including hives and all, $16.35; and the honey, at 25 cts., $3.25, which gives me a clear gain of $61.90, which is quite a contrast with some old box-hive men who live in my neighborhood, who got no honey and very little increase.

Stoner's, Pa., Dec. 8, 1883. P. D. MILLER.

DO TOMTITS EAT BEES?

There has been a long controversy in our local newspapers about tomtits eating bees, so I sent them an extract from my Bee-book, which conclusively settled the dispute.

"Nov. 30, 1872, I saw on one of my bee-benches a number of wings, legs, stings, and outside scales of the bodies of bees. I soon said, 'The tomtit (*Parus cœruleus*) has been busy here.' I had not noticed or seen it before that year. But about 4 o'clock I saw three tomtits eating my bees. One of them I watched, and saw him fly down on to the alighting-board of one of my hives. He began tapping it with his bill. Shortly a bee came out to see who was there, and was immediately snapped up by the tomtit, which flew with it into an apple-tree near the hive. He then beat the bee against the bough of the tree on which he stood, until it was killed. Then the tomtit with his right foot and beak pulled the bee's wings, legs, sting, and head off, letting the rejected parts fall to the ground, and it then ate the dainty parts of the bee. The tomtit was soon down on the alighting-board again — tap, tap, tap — and another bee came out to see who was there. Then the same process was repeated. I saw him take five bees in this way in seven minutes, when I could stand it no longer. So I frightened the tomtit away, as I was afraid he might have the nightmare by eating such an enormous supper. The tomtits were eating my bees again before ten o'clock next morning. So I brought out my gun, and shot three of them; and on opening their craws I found them nearly filled with bees — one head, antennæ, and tongue complete. This bird must have been very hungry, as they generally reject the head. I found no wings, legs, nor stings in the craws. It grieved me very much to have to kill these useful, beautiful, and interesting birds, but it required the patience of Job to see my pets (the bees) so mercilessly destroyed."

Your experienced correspondent, "G. D.," is quite correct. The tomtit does little harm in summer, there being at that time such an abundance of insect food, which he prefers. It is only when its natural food fails that it attacks the bee-hives.

WILLIAM CARR.

Newton-Heath Apiary, near Manchester, Eng., Dec., 1883.

Many thanks, friend C., for the positive facts you give us in the matter. I am glad to hear you put in that concluding clause, that it is not likely the tomtits would molest the bees, unless driven to it. Charity toward the feathered tribes would be a pretty good failing if we are to err either way.

CAGING QUEEN-CELLS OVER A STRONG COLONY, ETC.

In destroying queen-cells, I often want to save a few for my own use, and yet not enough to bother with a lamp-nursery; therefore what would be the greatest objections to the following plan for rearing a few queens? Make a shallow box, say two or three inches deep, with a wire-screen bottom, and a quilt or lid on top; put the cells in this, and put it over a strong colony, so that the heat would go up in the box, but the screen would keep the bees down. Please describe the looks of cells that you think contain the best queens.

Nashville, Mo. JOHN UMHOLS.

Your plan is a very old one, friend U., as you will notice by looking through our back volumes. It works tiptop during settled warm weather; but when it comes cool nights, you have to have a very strong colony in a good close chaff hive, or many of your cells will get chilled.—I confess myself unable to tell by the looks of the queen-cell what the queen will be; but this I should want to be sure of, that the cells were built in a colony that had plenty of bees, and plenty of honey and pollen, and also that the cells were built while stores were coming in rapidly every day.

DAKOTA FOR BEE-KEEPING; INFORMATION WANTED.

On page 756, Dec., 1883, you speak of your brother, from Mitchell, Dakota, being on a visit to you. Very likely you questioned him in regard to the climate of Dakota being too severe to keep bees, whether there were any wild flowers and honey-producing plants and shrubs growing on the banks of streams and lakes, etc. Will you kindly make public, in your journal, whatever you may have gleaned from him or any other source, on that subject? Being desirous of going to Dakota to make a home, but not unless we can have the pleasure of keeping bees, an early article on this subject will greatly oblige the writer, and, I think, a great many other people.

Omer, Mich., Dec. 13, 1883. A B C SCHOLAR.

Friend S., I did question my brother quite a little; and I should infer from what he says, that Dakota might rank well with other States, although perhaps not quite equal to Michigan, York State, and some others. If I am correct, they have no clover in his vicinity around Mitchell. We have fifteen or twenty subscribers in Dakota, whose names we can give you, if you care for them.

HOW OLD MAY A QUEEN BE, AND YET BECOME FERTILIZED?

I see Mr. Alley, on page 25 of his book, says virgin queens may be kept in his nursery, in the center of the brood-chamber "safely for *several weeks*." Mr. Langstroth says, on page 42 of the third edition of his work on the honey-bee, that "if fecundation has been delayed three weeks, the organs of the queen-bee are in such a condition that it can no longer be effected." I should infer, from what you say on page 66 of A B C book, that you think any time within the "first thirty days of her life" will answer for impregnation. Now, this is a very important point to be decided, if we are to confine virgin queens in the brood nursery for "weeks," for one may thus send out drone-laying queens, if they are retained, thus confined, too long. Has this question been decided by such careful observation as to determine definitely how long a time can elapse before the "wedding flight," without endangering the ability of the queen to lay worker eggs?

It may be that some of your correspondents have written on this subject, or at least have tested this question, and are prepared to give an answer. If so, please let us hear about it.

MARKING THE HIVE WHEN THE QUEEN IS ABOUT A WEEK OLD.

Another point of importance is, that of so marking the hive out of which the virgin queen goes on her marriage tour, that she will not fail to recognize it, and enter it safely on her return. Where the colonies stand close to each other, I have been accustomed to place a green branch on the hive, so that it will hang over in front, or a small flag in the same position. Any thing unusual which will especially attract attention, and strongly distinguish it from all others, is what is needed. I have never lost a queen when I have done this, though often my hives have stood quite near together.

Andover, Mass., Dec., 1883. L. H. SHELDON.

I know friend Alley makes the statement you mention, friend S., but I think he only intended to convey the idea that they would *live*, if left there several weeks; for I am sure he would expect to have them fertilized when they were 12 or 15 days old. I should be inclined to find more fault with the rest of the expression, where he says they will stay there perfectly contented and happy for several weeks. We experimented in just such cages more than ten years ago, but I never found young queens "happy and contented" for even several days, when they were confined in any sort of a cage, or anywhere else. The question has been a good deal discussed, and I believe 20 days is about the limit. If they are not fertilized at two weeks old, we generally begin to suspect something is wrong; and when they do lay after that, they turn out drone-layers, as you suggest. Very likely your plan of putting a green bush over the hive when the queen is about a week old, has proved quite an aid to her in fixing the locality of her home.

LOSING VIRGIN QUEENS.

My hives are all so near alike I could not tell them apart, if it were not that I have them all numbered, for they are not more than three feet apart. The first 4 I put in, I lost them all, and I thought it was because my hives were too close together. Knowing that young workers often get into wrong hives I came to the conclusion that this is what became of my queens; so I took a piece of ½ inch pine, and fitted it in the front of the hive outside under the portico, and bored it full of inch holes. I now dropped the queens in one of these holes, and never lost one out of 19 afterward. I did not make the distance any greater between hives, or leave the board in front, after the queen began to lay.

Quincy, Ill., Dec. 25, 1883. C. H. SMITH.

Friend S., I am inclined to think your idea is a pretty good one. If the young queen crawls out of an auger-hole when she first takes her flight out into the world, she will be very likely to remember the board with the holes in it, and will therefore be attracted to that hive in place of any other one. The objections to the plan would be, that our bee-keepers are so many of them too careless to take the pains to put the board there when the queen was of the right age, and to take it away as soon as she commenced laying. Seems to me about three one-inch holes would be a plenty; and then if robbers should ever be troublesome, the sentinels could easily defend these three holes.

THE "GOOD" CANDY, NO GOOD.

I must pronounce the Good candy that I have read so much about, no good for feeding up stocks for winter, for a few weeks ago I had several stocks that were deficient in stores, and I made the candy as near as I could after directions. I took pure extracted honey, and thickened it with granulated sugar as thick as I could work it with my hands, and put it in trays holding about 6 lbs. each, and put them over the cluster on the frames, and the next day each stock so treated began to carry out and drop in front of their hive the dry grains of sugar—not merely a few grains, but in quantities so that I scraped up a pound or so from off the ground. But that was not the worst, for dewy nights and rainy days soon made robbing the order of the day, and they kept toting out the sugar for fully a week, so I shall have to pronounce the Good candy no good for feeding up stocks with. A. A. FRADENBURG.

Port Washington, O., Dec. 25, 1883.

Friend F., I do not agree. I have been telling you for months you must make the Good candy of *powdered* sugar, instead of granulated. The finely powdered confectioner's sugar has the grain so small that the honey dissolves, as it were, and you have a smooth paste, almost like butter. We have used this exclusively for almost a year, and I do not believe it will rattle down, as you say.

REPORT OF 1883.

Commenced the season with 29 colonies—21 good, and 8 weak. Spring was cold and wet; summer very wet all through. First swarm May 16. Increased to 48, mostly by natural swarming; received 1197 lbs. honey—507 extracted, and 690 comb—an average of 42¾ lbs. per colony—about half a crop for this section; honey was very thick, and of fine flavor—all light in color. Bees are Italians and hybrids, the latter gathering the most honey; best colony gathered 135 lbs. comb honey. I use Langstroth hives, 8 frames in brood-chamber, and take all surplus on top. W. E. YODER.

Lewisburg, Pa., Dec. 24, 1883.

TWO SIDES TO BEE CULTURE.

Certainly there are, as I know from experience. Two years ago I took about 25 lbs. of honey from 10 colonies. I never for an instant had the least notion of reporting my failure in the bee journals. That is the way with thousands of others. On the contrary, if a good crop of honey is gathered, the bee journals hear it, publish it, and make a fuss over it, as if there were nothing but success in the profession. A poor man gets a sample copy of the journal, reads the grand reports, and in the distance a mountain of gold rises to his view. The next spring finds one novice more in the profession, with the bee-fever, an empty pocket, a head full of bees, bee literature, bee-men, and perhaps a dream of honey by the ton, bees by the thousand, and a home in a tropical climate, where the sun always shines, and bees gather honey all the year. Result: The pocket remains empty, perhaps blasted hopes, and as friend Hutchinson says, trade those bees off for a song; or he will make a success, as a great many do, then all is well. Now, Bro. Root, is it right to thus give but one side of the question? H. W. SIMON.

Youngstown, O., Dec. 10, 1883.

I know what you say is true, friend S.; but it is also true in almost every industry. There is a class of people who are changing their business every little while, in the vain hope of finding something better, but who, perhaps, end their lives after all only as Blasted Hopers. I have always felt sad to see any one go into bee culture who could not afford to lose all he invested, without getting into trouble; that is, I advise, as you well know, commencing with one or two stocks, and not investing very much in the business until one has proved by experience that his locality is right, and that *he* is right. Meanwhile, let him keep on with his regular employment till he can safely make bee culture his sole business, if he wishes to. This may be called amateur bee culture, and it is the very kind I would advise for the great masses. Again, is it the fault of the bee journals if those who fail will not report? I do not know how it is with the other journals, but GLEANINGS always has a Blasted Hopes department open, and has had for years. Would it not be well, friends, for those who criticise so severely, to look over our price list and A B C book, and see if GLEANINGS and its editor are guilty of the charges several times made recently? Note the caution on page 2 of the price list, just after the index. This caution has been kept in plain sight for the past ten years, and all who get one of our price lists can hardly fail to read it.

A FEEDER FOR SPRING FEEDING.

I have used almost every kind of feeder, and all were unsatisfactory, and many stings and much trouble for my labor. So, thinks I to myself one day, I'll make a feeder to suit my wants, and I did, and here is a sample—one of 72 I used last spring. To use it, place the block in the corner of your hive, after pulling back the corner of burlap, permitting the bees to come up to the wire cloth covering the hole in the block, but not far enough to let them into the hive above; fill your tumbler, and invert it over the wire cloth, covering the hole in the block, and place on your cushion. When feeding the second time, simply raise the corner of cushion; lift out tumbler, fill it, invert, and place back; no bees to sting, none to get in the way, and none to get drowned. Almost any child can do the feeding, and do it quickly and safely. The cushion being left on the hive, the syrup will be carried down on the coldest day in spring or fall. Now, friend R., put this feeder on a hive, and try it, and then make a dozen more and try them, and then you can tell us how you like it. In every way it is the best feeder I ever used. GEO. F. WILLIAMS.

New Philadelphia, O., Oct. 6, 1883.

I shall have to explain to our readers, that the feeder that is alluded to in the above is nothing particularly new. It is simply a common tin-top jelly-tumbler, such as we sell at 5 cts., or less by the quantity, and with the tin cap punched full of holes. I should think, by the looks of the holes, that friend W. punched them with a square-pointed nail, taking a square piece of tin out each time. I suppose you have all used feeders like this. Now the problem is, to get it over the bees without uncovering the brood-chamber so as to let a draft of air through. I once killed a weak colony by turning up the quilt to set the feeder on. A cold night came, and they froze up solid — bees, queen, brood, and all. Had the mat been down over them so as to confine the animal heat, they would doubtless have stood it all right, for it was in the spring. Well, friend W. fixes it this way: He takes a three-cornered block, large enough to invert the tumbler on, cuts a large hole through, and tacks wire cloth over it. The three-cornered block will just fit in one corner of the upper story, and you can turn back the burlap sheet or carpet, folding down the corner so as to make a close fit, bee-tight, without cutting or mutilating your carpet or mat. The feeder can now be set over the hole, right on the wire cloth, so as to close that down tight. Bees can get their food through the meshes of the wire cloth, and can not get up to sting or bother you when you remove the jelly-tumbler to fill it up again. Of course, the device is all old, with the exception of placing it over a block in one corner; and this latter point is no small matter, when you come to think of it.

HONEY FOR MEDICINE.

Tried remedies for colds and coughs.—*Linseed tea.* —Take 2 tablespoonfuls of flaxseed (*unground*); 1 quart cold water; heat to a boiling-point, then add the juice of 1 large lemon. Sweeten with honey. Dose, 1 wineglassful every hour or two.

No. 2.—Take 1 teacupful of hops, 1 pint of water; steep slowly about half an hour; strain while hot; add juice of one large lemon; sweeten with honey.

No. 3.—One large handful of boneset (use leaves, blossoms, and stalks); add 1 quart of boiling water; steep awhile; strain, and add juice of 2 lemons and 12 ounces of honey while hot. Dose, 1 tablespoonful 4 or 5 times a day, before eating.

Battle Creek, Mich. B. SALISBURY.

EARLY-AMBER SUGAR-CANE SEED; A GOOD REPORT.

Dear Sir: — I wish to say a word in regard to that cane seed which we purchased from you last spring. We planted 1 lb. June 1st, which sprouted and grew one inch above the ground in 6 days. Well, to sum it all up, in the fall we had 51 gallons of splendid syrup; 25 gallons of it we sold for $20.00, and we have

26 gallons for our own use, worth $20 00, all from one pound of seed, which cost us 15c. We think that is very good for beginners.

Mr. Gilbert and myself both keep bees, and we study the A B C, which we bought of a brother bee-keeper. We run a woodworking shop, and manufacture bee-keepers' supplies. **Wm. H. Nash.**

Adrian, Mich., Dec. 28, 1883.

PREVENTING SECOND SWARMING.

Bees in this section seemed to desire to devote their whole time last season to swarming. My 35 colonies increased 75 good strong ones for winter, and gave me about 1000 lbs. of box honey. I experimented with a few to prevent second swarms coming out, by removing the old colony to a new stand after the first swarm had issued, and placing the new swarm on the old stand. This seemed to give the new swarm a large working force, and weakened the old sufficient to prevent a second swarm in most instances. What do you think of the plan?

L. D. Worth.

Reading Center, N. Y., Dec. 24. 1883.

The plan you give is an old one, friend W. I think you will find substantially the same thing in the A B C book. I believe it is a very good way, only it is pretty hard on the old stock. It prevents them from swarming by crippling them, and removing all their flying bees. As a matter of course, the hive full of brood suffers from lack of nurses, and many young bees are lost that would otherwise be saved. But it may be a very good plan for those who have but little time, and so many bees they do not care for the loss of a few.

Notes and Queries.

HOW LONG WILL COMB HONEY KEEP?

PLEASE tell us through Gleanings how long a good article of comb honey will keep, if stored in a warm dry place. I have over 3000 lbs. yet; have 99 colonies tucked away for winter. I keep them in chaff the year round. Hybrids gave me better results than the light Italians. These beautiful bees are fit only for swarming purposes.

J. A. Newton, M. D.

Boonville, Ind., Nov. 22, 1883.

[We have kept comb honey as much as two or three years by keeping it where it will not freeze, nor be exposed to dampness of any kind. The worst trouble with it when kept so long is candying. The cells that are unsealed are also liable to slight change, which makes the honey of a little different taste from that recently from the hives. I do not believe it is well to try to keep honey more than from year to year.]

N. A. B. K. A.

Friend Root:—Please add in the list of new members joined at the national meeting at Toronto, the two following names:

Chas. Humphrey, Rockney, Ont.
W. A. Morrison, Frelighsburg, Quebec.

And add to the list the four following names which, in some manner, were forgotten to be reported:

Richard Humphreys, Bothwell, Ont.
Ira Orais Whitley, Ont.
Alex. McKechnie, Angus, Ont.
D. B. Ullery Northampton, O.

Cincinnati, Dec. 14, 1883. **Chas. F. Muth.**

My report for 1883 stands: 18 swarms from 5, besides one got away, and 375 lbs. comb honey. I think that is good. **Jas. J. Church.**

Waterford, Ont., Can., Nov. 3, 1883.

Mr. Thomas Graham Ashmead, of New York State, is on our streets to-day. Having shipped here about two hundred swarms of bees, he proposes locating them somewhere near New Smyrna, and entering quite extensively in the sale of both bees and honey. We cordially welcome all such accessions to our State.—*Florida Herald, Nov. 6.*

My brother-in-law and I started with one stand apiece in the spring, in box hives; we now have 10 by natural swarming — 8 strong ones, 2 rather weak. We had one swarm that we took 42 lbs in one-pound sections from. That was the best we could do.

Myron, Ia., Nov. 20, 1883. **John Gilbert.**

SOME QUERIES ABOUT ALFALFA.

Should it be sown in the spring, or fall?

[I can not answer about fall sowing.]

Will it do well with other grass seed?

[I think not. My impression is, it should be sown by itself.]

Will it blossom the first year, and, after sown, remain permanently?

[I think it blossoms the first year, and it does remain permanently.]

Will it make good hay for cattle?

[Very good. Cut while young and tender, or while just in bloom.]

Is it a bad weed when once established in the ground? **Charles E. Price.**

Smithtown Branch, L. I.

[I think not.]

CONVENTION NOTICES.

The annual meeting of the South-eastern Michigan Bee-keeping Association will be held at Adrian, Mich., in Plymouth church chapel. Jan. 23. 1884. All are invited. **H. D. Cutting**, *President.*
H. C. Markham, *Secretary.*

The Mahoning-Valley Bee-Keepers' Association will be held in the Town Hall at Newton Falls, on Thursday, Jan. 24, 1884. As that is the meeting to elect officers, every member, and all interested in the production and sale of honey, are requested to be present. **L. Carson**, *President.*
E. W. Turner, *Secretary.*

CIRCULARS RECEIVED.

E. T. Lewis & Co., Toledo, O., have sent us two price lists — one relative to apiarian supplies in general, and one is devoted to their extractor exclusively. Each 3½x6. The printing is quite fine.

By reading Kind Words, you will notice that friend Doolittle has opened the campaign for 1884 with a circular and price list gotten up about the same as last year. We "kind o'" lose sight of Doolittle the bee-keeper when we notice the extent to which he deals in grapes, berries, potatoes, and what not.

From away across the "big pond" comes a price list from Wm. W. Young, of Perth, Scotland. It is 5x8 inches in size, contains 26 pages, well illustrated. Among the list of "foreign" pictures, we notice that quite a large per cent of them are from America. The pamphlet is also a good index of the rapid strides that apiculture is making in foreign lands.

G. B. Lewis, Watertown, Wis., has sent us a 16-page list of what he manufactures in the way of apiarian supplies, etc. The pages are about 3½x5¼. On the back is a pretty picture of friend Lewis' factory, standing by quite a stream of water having an abrupt fall of about four feet, as nearly as we can judge by the picture.

Blasted Hopes,

Or Letters from Those Who have Made Bee Culture a Failure.

BLASTED HOPES IN RHYME.

ARE Blasted Hopes better than no hopes at all?
I can furnish you plenty of that kind this fall.
For the visions my fancy presented last spring
Are gone; not on wings, but for *want* of a wing.
Like "Jack's bean," they grew in the morn of the year;
Like frost-bitten plants they lie withered and sear.
No pictures so bright adorn Memory's halls
As those which Hope hung on my apiary walls.
My hives were all honey, my bees were all wing,
For fancy had kindly extracted the sting.
But nature, resenting the slur on her art,
The venom replaced, in its natural part—
At the last, and I felt it in heart and in purse,
And still I can feel it — in fact, it grows worse.
E'en Memory blends in the sorrowful cup
But one drop of comfort, the memory of hope.
My seven and twenty swarms dwindled to six;
Only three of that number in very good fix
To resist the stern blasts of old Boreas' breath.
What did it? The arm of the conqueror, Death.
But they fell at their posts. One bright August day,
With a hum of delight they all took their way
To the field, to the mountain, to river, and glen;
But few e'er returned; and the next day again,
They gloomily went and more wearily came,
And every day's programme repeated the same
Sad story. But none could tell whither or why
They were gone. Did they pine for their own native sky?
*I called Dr. Virgil, their countryman, in
To aid me; but all of his knowledge was vain.
I sought through the GLEANINGS for help in my grief,
But e'en Dr. Root gave no kind of relief;
And the hunter's sole comfort my solace has been —
Go ahead, "Pick your flint, and then try it again."
And I'll try it again and again; if I fall,
A blasted hope 's better than no hope at all.
So, while in the future no sunshine I see,
The song of Scotch Robbie my own song shall be:
"I whiles clan the elbow o' troublesome thought,
But man is a sojer, and life is a fought.
My mirth and good humor are coin in my pouch,
An' my freedom 's my lairdship nae monarch dare touch."

MRS. A. C. MOSHER.

San Marcos, Texas, Dec. 21, 1883.

I am very sorry indeed, my friend, to hear of your loss; still, I am rejoiced to see you take it with such a cheerful, hopeful spirit. You surely have abundant reason to feel discouraged, if anybody has, and your warning may be a timely one to others. The first thing that comes before us is to consider whether a remedy may be possible for such contingences Only one course occurs to me at present, and that is, to fasten the bees in their hives with wire cloth until the rain shall come to wash off the poison. If the weather is hot, and the hives are full to overflowing, put on an extra upper story, and cover both top and bottom with wire cloth. Then, if need be, set them in a cellar. We know it can be done, because we have shipped full colonies of bees, even during the hottest months of the year; and such a course would certainly be better than losing them.

BLASTED HOPES, BUT NOT DISCOURAGED.

Here is our report for 1883: Nov., 1882, we put 115 stands in winter quarters. March 13 and 14 we carried them out of cellar; found two dead. Average consumption, 6½ lbs. March 18, bees gathered honey from maple. April 22, from fruit-bloom, April 29 heavy frost. May 11 first white clover, which finds us with 109 stands; doubled back to 75. Proceeds, 7500 lbs. extracted, and 500 lbs. of comb honey, and increase to 154. We were making ready for —, which did not come; will live in hopes of doing better next time.

MOLLIE O. LARGE.

Millersville, Ill., Dec. 5, 1883.

The "Growlery."

This department is to be kept for the benefit of those who are dissatisfied, and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

I WROTE you to know how I could fix the metal-corner frames so they would keep in place while I moved them half a dozen miles; but it seems you stuck up your nose, and threw my letter into the waste-basket for a reply. My necessity has driven me to rack my brain to that extent I have invented a machine for that purpose, that I think will go ahead of any thing you have in that direction; nor do I think you will ever be able to come down to it, or compete with it, as it is so simple you will be hardly able to come in sympathy with it. It is cheap — handsome, handy, takes up no room, kills no bees, is stationary, holds the frames to their place, if there is but one, and that in the middle of the hive. It is beyond description, with a head no larger than mine; and better than all of this, it is eternal, everlasting, with but one end to it. What do you think about you and I getting it patented?

Syracuse, N. Y., Dec. 4, 1883. JOHN DO.

Friend D., I did not stick up my nose, nor throw your communication into the waste-basket at all. I do not ever stick up my nose at anybody or any thing; and in regard to throwing letters into the waste-basket, I do not think I very often do that, and I certainly do not treat inquiries from bee-friends in that manner. On page 25 of our price list you will see spacing-boards for this very purpose; and I think I remember your inquiry, and that I penciled on the margin of the letter, that the clerks should refer you to that. When I get letters from somebody who wants to advertise a lottery scheme, or something of that ilk, I believe I do sometimes throw them into the waste-basket. I was going to add the same in regard to those who wanted me to go into the patent-right business, but I think I won't, on account of your concluding sentence.

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* I suppose they were all poisoned, as the honey-dew was so thick on the cotton that, when the farmers sprinkled Paris green on it (to destroy the worms), it stuck fast to the leaves; and after the first good rain, they stopped dying. Nearly all my neighbors lost theirs in the same way.

Now, I do not know how we can decide in regard to your "great invention with but one end to it," till you tell us a little more about it. By the way, friend D., I thought you really belonged in the Growlery; but after I got through I concluded it was a bit of pleasantry; but as we have not had any thing for the Growlery for some time, I guess I will let it go there.

GLEANINGS IN BEE CULTURE.
A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, JAN. 1, 1884.

I have meat to eat that ye know not of.—JOHN 4: 32.

HAVE any of you got any white Dutch clover seed, or white-clover seed without the "Dutch"? Please mail a sample, and say what you will take for it, if you have.

FRIEND ALLEY'S new book on queen-rearing is now furnished for an even dollar. We have them in stock, ready to mail, on a moment's notice. We can furnish them by freight or express with other goods for 90 cts.

WE are just filling an order for 5000 lbs. of honey, to go to England. It is true, I get only 10 cts. per lb. for it, but I am thankful for even that, because it promises to open up a trade that may enable me to help our bee-keepers to dispose of their honey. The honey is to be shipped in 50-lb. tin cans, two in a case. And, by the way, I am inclined to think I would a little rather have honey stored in tin cans, when it is first taken from the hives, than to have that which had been put in barrels of any kind. How is it, friends?

WHOLESOME READING FOR THE FAMILY.

SEVERAL of late have asked what paper I would advise them to take. After giving the matter some thought, I have settled down on the *Sunday-School Times*. There are papers more interesting, perhaps, and there may be papers that should come before this, owing to various circumstances; but in all my reading, I know of none that seem to contain the real solid, substantial, profitable food for thought as does the *Times*. Turn to its columns where you may, and you will always find something elevating and ennobling. Its moral tone is of the highest order, and not a line ever finds a place on its pages that does not carry a moral lesson with it. It requires some study and thought, much of it, I know; but when one lays it down, it is always with the feeling of having been made a little better by its wise counsels. We can furnish it to the readers of GLEANINGS for $1.25 per year. It comes every week. The regular price is $2 00.

HOW TO CONVERT A POOR ARTICLE OF EXTRACTED HONEY INTO AN EXTRA FINE ARTICLE.

THE idea was given by friend C. C. Miller, at the Toronto Convention, and, so far as I remember, it has never appeared in print. It is this: Get your poor honey candied, as solid as you can. Then drain off the liquid portion, all you can get drained off, and sell this liquid portion as a poor grade of honey. Now take the remaining solid honey and melt it carefully, without scorching, and you will have honey thick, transparent, ripe, and of beautiful flavor. The success of the operation depends on getting the liquid portion entirely out of the candied honey. The process is not unlike that used for refining loaf sugar. The coloring matter and impurities run off from the crystals, leaving them white, dry, and pure, like crystallized rock candy. Of course, the honey does not crystallize as does cane sugar, but yet the candying process is something akin to it. May be sugar refiners could suggest to us some mode of washing or cleansing these solid crystals of candied honey. I think the matter needs investigation.

COMB FOUNDATION FOR 1884.

As a matter of course, much discussion is going on, and much comparing of samples. Like all other manufacturers, I presume, we think ours is at least as good as any, samples of which will be mailed free to just as many as care to have them. Samples we send out run pretty light—say 8 to 10 feet to the pound; but with the rather thick soft walls, we think they will answer for either brood or section boxes, although we as a general thing make it a little heavier for brood combs. Our samples may not be as nice looking, or as bright and glossy, as some others that are sent out; but I tell you, friends, if you will submit the whole matter to the bees, and let them decide which they prefer, we have no fear but that you will agree with us, that ours is certainly equal to any in the world. Our mills are now stacked up, ready for shipment; and to avoid the delays that may be disastrous to you in a few months more, I would earnestly recommend ordering pretty soon. Our mills all make either thick or thin fdn., as you choose; and if there is any improvement that can be made in them for real work, we should be glad to know it.

THE GIVEN FOUNDATION-PRESS.

D. S. GIVEN & CO. have sent us a very pretty circular on the Given foundation-press; and it would seem, from the abundant testimonials, that they are making a decided success of it. One great obstacle in the way of its use to us would be, that the wired frames of fdn. are not sufficiently strong to admit of shipment—at least, I have heard no reports of their having been able to manage this point. If I am mistaken, I shall be glad to be corrected. Another thing, I do not quite understand why the Given fdn. should be superior to that made on rolls, for it is an easy matter to make rolls that will make fdn. with as heavy soft walls as that made by the press—at least, that is my understanding of it. However, one thing is very certain—that it is pretty much out of the question to think of making fdn. with rolls right in the wired frames, and in this point the Given press is far ahead of any rolls. When we last discussed the matter, I believe it was also admitted that we could not make the sheet of fdn. in a wired frame so as to completely fill the frame, as we have them when made by rolls. Very likely I am ignorant on all these matters; and if so, I want to be posted; therefore I would ask friend Given to send me some frames filled with fdn. made by his machine. If they ship safely, and the wax comes clear up to the wood, I shall be quite ready to report in our next issue aftter receiving them, and shall also want a press besides. I know a good many find fault with the cautious way in which I advise new improvements; but I presume the majority of our readers are well aware that I am trying to do it for their sakes, and also try not to let any selfish motives bias my decision. After having done this, if I receive unkind or abusive words, I will try to bear them with meekness. It is a very important question now before our bee-keepers, as to whether they shall get a pair of rolls or a press.

WE open the new year with 4275 subscribers, which is certainly quite encouraging for a start. Many thanks to you all.

I EXPECT to be at the Ohio Bee-keepers' Convention, to be held in Columbus, Jan. 14, 15, 16, nothing preventing. For particulars, see page 782, Dec. JUVENILE.

WE notice that one of our advertisers offers comb fdn. at from 33⅓ to 37½ cts. per lb., which is hardly equal to the value of the wax. We presume he will be sold out speedily.

BEAR in mind that fdn. is now 3 cts. higher than in any catalogue you may have. The price of wax is the same as in our last. We pay 32 cts. cash, or 34 trade; but we have none for sale less than 38. The demand seems to be so brisk that prices will probably go higher very soon.

ADULTERATION OF SUGAR, AND ADULTERATION OF HONEY.

PEOPLE who are ignorant of the present advanced state of bee culture accuse bee-keepers of manufacturing their honey, or adulterating it with glucose; of putting it in artificial combs, and sealing it up with hot irons, and the like. We smile at their ignorance, and lament their uncharitableness. Now, then, to turn it about, are we not in danger of accusing sugar refiners of dishonesty and fraud, in something the same way? Do we as a class know much more about refining sugar, than the masses know of bee-keeping? Is it not possible, that the talk about granulated sugar being adulterated is nearly on a par with that stale piece of folly about comb honey being manufactured? There are some recent articles in the *Scientific American* bearing on this subject.

THE BEE-KEEPER'S HAMMER.

A GOOD many times one can do quite a good deal with a little ready cash on hand. A few days ago a manufacturer of hammers told me he had a large lot of light hammers of a special pattern that he would sell very low to get rid of them. On examining a sample I found it was just about what bee-keepers want to nail up hives, honey-boxes, etc. He wanted about 25 cts. apiece for the whole lot of 50 dozen. I made him an offer of a price that would enable me to sell them to you for an even 25 cts., and he finally, with many protests, took up with my offer, to get them off his hands. They are tempered cast steel, beautifully finished, with a solid hickory varnished handle. The claw is nicely made, sharp, and so finely tempered that a nail without a head can be pulled without trouble. These hammers are just what every bee-man will want as soon as he sees one, so it seems to me. We can *mail* you one for 12 cts. more than the price (25 cts.), so you will see that the hammer weighs just about 11 ounces. In lots of 10, we can furnish them for $2.40, or 100 for $23 00.

SEND for the STANLEY DOLLAR SMOKER. See advertisement in another column.

DUNHAM COMB FOUNDATION.

We have bought a large stock of choice yellow beeswax, and can furnish Dunham Comb Fdn. for brood comb, cut to any size, for 45c. per lb. Extra thin and bright yellow fdn. for sections, at 55c. per lb. We will guarantee our fdn to be made of pure beeswax, and not to sag. Will pay 30c per lb for yellow wax, or will work it up for 10c. per lb. To induce our customers to order fdn. early in season, we will allow 8% discount on all orders received before the first of March. Address orders at once to
F. W. HOLMES,
1-3-5-7-9-11d Coopersville, Ottawa Co., Mich.

BEE-KEEPERS' MAGAZINE.

Great improvement for 1884! New type! New paper! New cover! Only $1.00 per year; 3 months, 30 cents. *Sample free.*
KING & ASPINWALL,
1d 14 Park Place, New York.

BEE-HIVES! BEE-HIVES!

Simplicity, Langstroth, and Chaff Hives, Section Boxes, Brood-Frames, and Comb Foundation. Send for price list. The successors of A. B. Miller & Son.
MILLER BROS.,
1-3-5d NAPPANEE, Elkhart Co., Ind.

MAKE YOUR OWN FDN.

My foundation-molds have given good satisfaction for 3 years Lately improved. Used and praised by leading bee-men. Price, $3 75 for L. size, or 12x12. Circulars free. OLIVER FOSTER,
1d MT. VERNON, Linn Co., Iowa.

A Full Line of Apiary Supplies.

Headquarters for the West. Send for price list. Cash paid for beeswax. HOWE & SON,
1d Council Bluffs, Iowa.

NOTICE.—All persons indebted to me are requested to remit at once; and all persons having demands against me will please send statement of account, and have them adjusted.
HENRY ALLEY, Wenham, Mass.

BOXES.

All one-piece boxes and L. hives, at a reduction for Jan., 1884. Send for price list and circular.
1d F. P. MCGREGOR, Freeland, Saginaw Co., Mich.

BEESWAX WANTED!

Will pay 32c. per lb. for clean yellow wax, delivered here. A. F. UNTERKIRCHER.
1-3d Manchester, Washtenaw Co., Mich.

1884, 6 Warranted Queens for $5.00. Write for circular. **1884,**
1d J. T. WILSON, - MORTONSVILLE, KY.

CANADIANS, send for our illustrated catalogue and price list of Apiarian Supplies. Address
M. RICHARDSON & SON,
1-3-5d Port Colborne, Ont.

BEES FOR SALE!

A large lot of Black Bees for sale cheap, all in good condition. Address P. H. KING,
12½d Henderson, Henderson Co., Ky.

NUCLEUS COLONY with Italian queen after June 1st for only $3.00. Samples of Business cards, 2c. J. L. HYDE, Pomfret Landing, Conn. 12½tfd.

WANTED.—100 Three Langstroth-Frame Nuclei next spring. Write for particulars.
F. A. SALISBURY, Geddes, Onon. Co., N. Y. 12½tfd

MAMMOTH RUSSIAN SUNFLOWER SEED, 10c per packet. Stamps taken. Address T. GRAHAM ASHMEAD, Williamson, Wayne Co., N. Y.
12-2d

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American Apiculturist,

A MONTHLY JOURNAL

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Scientific and Practical Bee-Keeping.

Edited by a practical bee-keeper, and published in the broadest sense in the interests of the bee-keeper. Its list of contributors consists of the most practical, prominent, and successful apiculturists in America. Our January number will contain

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And we will send that number *free* to all those who send their addresses, plainly written, on a postal card. Address—

SILAS M. LOCKE, Editor and Prop'r,
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200 COLONIES OF

ITALIAN BEES FOR SALE.

TRY OUR IMPROVED ITALIANS.

Send for Price List. Address

Dr. C. W. Young, or C. F. Lane,
12-1-3-4-5d **LEXINGTON, MO.**

COMB FDN., 33 1-3c. TO 37 1-2c.,

OF FINEST QUALITY.

Send for circular *at once*, if you want to save money; only a limited supply at above prices. Don't order till you see circular.

J. B. FERGUSON,
1 **Logan C. H., West Virginia.**

EARLY BEES AND QUEENS FOR 1884.

Send for I. R. Good's price list of Holy-Land and Italian Bees and Queens for 1884.
12-1d I. R. GOOD, TULLAHOMA, TENN.

FRUIT AND HONEY.

20 BLACK TARTARIAN CHERRY-TREES BY Express for $1. *Well packed.* These are from two to four feet. Can send 20 small ones by mail postpaid for $1. CHAS. KINGSLEY,
11tfd Greeneville, Greene Co., Tenn.

MUTH'S

HONEY EXTRACTOR,

SQUARE GLASS HONEY JARS,
TIN BUCKETS, BEE HIVES,
HONEY SECTIONS, &c., &c.

Apply to CHAS. F. MUTH, CINCINNATI, O.

P. S.—Send Stamp of 10c for "Practical Hints to Bee-keepers." 1tfd

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THE BEE-KEEPERS' HANDY BOOK.

216 pages, bound in cloth, by mail, post-paid, $1.00 per copy. Send for prospectus, and our special circulars describing three new and useful articles for the apiary.
11½-tfd HENRY ALLEY, Wenham, Mass.

NOW READY!

NOW READY!

To fill orders for 500 of those splendid U. S. Standard Honey-Extractors, and 2000 of the new improved Bee-Smokers. Extra discounts in Dec., Jan., and Feb., both wholesale and retail, on all kinds of Apiarian Supplies. Agents wanted. Send for circular. **E. T. LEWIS & CO.,**
12 5d **Toledo, O.**
Factory, 36 Monroe St.

GEORGE W. BAKER,

—OF—

Lewisville, Henry Co., Ind.

is still breeding those fine Italian Queens whose progeny are wonderful honey-gatherers; also dealer in APIARIAN SUPPLIES, and breeder of nearly all of the finest breeds of Poultry. Also, eggs for sitting. 3-2d

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DON'T DO IT!

DON'T SELL YOUR HONEY at starvation prices, but send for some of my half-pound **Honey Tumblers, only $4.50 per gross,** and I will describe fully how I put up and sell thousands of pounds of comb and extracted honey at 20 to 25 cts. per lb. Send an order and learn how to double your money on your honey. Address,

JOHN A. BUCHANAN,
12tfd *Holliday's Cove, Hancock Co., W. Va.*

DADANT'S HONEY CROP.

Our honey crop being very large, we offer THIRTY THOUSAND POUNDS OF EXTRACTED HONEY FOR SALE *AT REASONABLE PRICES.*

We have both clover and fall honey. Samples sent on receipt of stamps to pay postage. The honey can be delivered in any shape to suit purchasers.

Send 15 cents for our 24-page pamphlet on harvesting, handling, and marketing extracted honey.

DADANT'S FOUNDATION.

From James Heddon, July 27, 1883. "Your fdn. is certainly the nicest and best handled of any I have seen on the market. It is the only fdn. true to sample, I have ever received."

From Jas. Heddon, Aug. 10, 1883. "I will contract for 2000 lbs. of fdn. for next season on the terms of your letter."

From A. A. Newman, Aug. 24, 1883. "Book my order for 5000 lbs. for spring delivery."

From C F Muth, Sept. 6, 1883. "All of your shipments of fdn. during the season were sold on the day of their arrival."

Dealers, send in your orders for next spring, while wax is cheaper, and thus save trouble and money. We pay 28c cash for prime wax.

CHAS. DADANT & SON,
11tfd HAMILTON, HANCOCK CO., ILL.

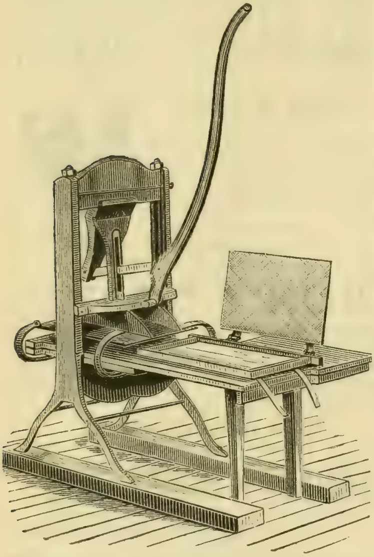
BEE-KEEPERS' SUPPLIES.

It will pay to get our prices before purchasing supplies; good Langstroth hives, with 8-inch cap frames, in the flat, 60 cts. each; Langstroth winter-protector, in lots of 50, $1.50 each; small lots, $1.75, all in the flat. Manufactured of good pine lumber. Workmanship unexcelled. Crates, sections, and foundation. **WM. O. BURK,** 8tfd
Successor to Hiram Roop. Crystal, Mont. Co., Mich.

GIVEN FOUNDATION PRESS

—AND—

WIRING MACHINE.



CIRCULAR AND SAMPLES FREE.

Small wired frames, 10 cents. Address

D. S. GIVEN & CO.,
1-2d **HOOPESTON, ILL.**

FERRY'S SEED ANNUAL FOR 1884

Will be mailed **FREE** to all applicants and to customers of last year without ordering it. It contains illustrations, prices, descriptions and directions for planting all Vegetable and Flower Seeds, Plants, etc. **Invaluable to all.**

D. M. FERRY & CO. DETROIT, Mich.

WANTED!

You to send for our very low prices on U. S. Standard Honey Extractors Would solicit the patronage of those wishing large lots of fdn. and other goods. Have a stock of 5x5 sections to mail. and can furnish Chaff and Simplicity Hives and One-Piece Sections. Will exchange goods for choice Extracted Honey. **G. W. STANLEY & BRO.,**
12-5d **Wyoming, N. Y.**

HEADQUARTERS

IN THE

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The Only Steam Factory Erected in the South, Exclusively for the Manufacture of Hives, Frames, Sections, &c., &c.

Van Deusen-Nellis, and Root SIMPLICITY Hives, and the 4¼x4¼ all-in-one-piece Sections a specialty.

Comb Foundation made on the Root and Dunham mill, of pure wax, and worked on shares.

Extractors, Smokers, Honey-Knives, Bee-Veils and every thing needed in the apiary.

Italian Queens and Bees. No other races in my apiary or in the neighborhood. The superiority of the queens reared in my apiary is so well established, that no commendation is required. I send out no queen that I would not have for myself; and any one receiving a defective or worthless queen from me will have it replaced, etc.

Untested Queens in April, $1.25; in May, $1 15; in June and after, $1.00. Rates per dozen given on application.

TESTED QUEENS from March 1st to July 1st, $2.50; and after, $2.00.

SELECTED TESTED QUEENS, reared previous season, to breed from, $3 00. All my queens are reared from selected imported mothers of my own importation, and from selected daughters.

EARLY 4-FRAME NUCLEUS, with tested queen. $5 00. I have made a specialty of the 4-frame nucleus for the last six years, and have sent them out to all parts of the United States and Canada, and so far without loss or complaints.

EVERY NUCLEUS I send out contains at least 3 lbs of bees when received and sent out in the full-size Langstroth srame. They are cheaper and more advantageous than bees by the pound. Any one wishing a list of those to whom I sent nuclei the last season can have it on application, so they can inquire what they were, etc.

FULL COLONIES in any quantity. Perfect satisfaction guaranteed in every instance. ☞ For more particulars, and prices, send for my descriptive illustrated catalogue.

P. L. VIALLON,

Bayou Goula, Iberville Parish, La.

BOOKS for BEE-KEEPERS and OTHERS.

Any of these books on which postage is not given, will be forwarded by mail, *postpaid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale*, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve, I have marked with a *; those I *especially* approve,**; those that are not up to times,†; books that contain but little matter for the price, large type and much space between the lines,‡; foreign,§.

BOOKS ESPECIALLY FOR BEE-KEEPERS.

As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very well, by the amount required for postage on each.

Postage.]		[Price without postage.
12	A B C of Bee Culture** Paper	88
15	A B C of Bee Culture** Cloth	1 10
6	Cook's New Manual** Paper	94
10	Cook's New Manual** Cloth	1 15
10	Quinby's New Bee-Keeping**	1 40
10	Queen Rearing, by H. Alley*	90
5	Bee-Keeper's Text Book* Revised, Paper	70
6	Bee-Keeper's Text Book* " Cloth	94
10	Langstroth on the Hive and Honey Bee**†	1 90
2	Dzierzon Theory**	10
1	Extracted Honey, Dadant*	14
1	Honey as Food and Medicine	05
4	"Blessed Bees"‡ A fascinating book, but it is fiction and *not facts*. Putnam's Sons..	75
	Fuller's Grape Culturist**	1 50
	The Apiary, or Bees, Bee Hives, and Bee Culture, by Geo. Neighbour & Sons, England*§	1 75
	British Bee-Keeper's Guide Book, by Thos. Wm. Cowan, Esq , England *§	40

MISCELLANEOUS HAND BOOKS.

3	An Egg Farm, Stoddard**	47
	Barn Plans and Out-Buildings*	1 50
	Book on Birds, Holden*	25
5	Dictionary, 25,000 words and phrases	15
	Draining for Profit and Health, Warring	1 50
7	Eclectic Manual of Phonography, by Longley cloth	70
	Forest Tree Culturist, Fuller*	1 50
10	Gardening for Profit**	1 40
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5	How to Make Candy**	45
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10	On the Road to Riches**	90
	Play and Profit in my Garden*	1 50
2	Potatoe Culture, (Prize Essay)* paper	23
2	Purdy's Small Fruit Instructor*	15
	Silk and the Silk Worm	25
	Small Fruit Culturist, Fuller*	1 50
	Strawberry Culturist, Fuller*	20
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	Ten Acres Enough**	1 00
2	Treatise on the Horse and his Diseases	23
	What I know of Farming, Horace Greely..	1 50
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8	Bible, *good print*, neatly bound	25
	Ester Ried**	1 25
5	Harmony of the Gospels	35
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10	Moody's Best Thoughts and Discourses**.	75
2	Moody and Sankey's Gospel Hymns, words only, No. IV., paper	05
3	Same, board	10
5	Same, words and music, board	30
4	Same, No's I, II, and III, words only, board	15
8	Same, words and music, paper	50
5	Same, Nos. I., II., III., and IV. combined, words only, board	25
10	Same, words and music, board	75
3	New Testament in pretty flexible covers..	05
15	Story of the Bible**	75

A large book of 700 pages, and 274 illustrations. Will be read by almost every child.

4	The Christian's Secret of a Happy Life **.	25
10	"The Life of Trust" by Geo. Muller**	1 15
10	Walks and Words of Jesus**	75

This book contains, in very large type, all the words spoken by Jesus, as nearly in their proper order as we can get them.

BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

American Bird Fancier	30
American Fruit Culturist, Thomas	3 75
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Klipparts Wheat Plant	1 75
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Money In The Garden, Quinn	1 50
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Practical Butter Book, Willard	1 00
Pear Culture, Fields	1 25
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Youman's Household Science	1 75
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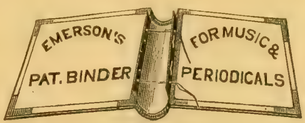


You can not look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me, what a bother—I *must* have last month's Journal and it is no where to be found." Put each No. in the Emerson Binder as soon as it comes, and you can sit down happy, any time you wish to find anything you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for one year), gilt lettered, free by mail for 50, 60, and 75c, according to quality. Table of prices of Binders for any Periodical, mailed on application. Send in your orders. A. I. ROOT, Medina, Ohio.

The Canadian P. O. authorities refuse to receive these through the mails, as they exceed the proper weight for merchandise.

ONE - PIECE SECTIONS PER 1000 $5.00

HIVES

And all goods correspondingly low. A specialty made of all styles of the **SIMPLICITY HIVE,** including the **"FALCON" Chaff Hive** (formerly **"M. & F."**) with movable upper story, which is growing rapidly in favor, as offering superior advantages for wintering and handling bees at all seasons, which is attested by the thousands now in use. This hive is furnished with one or both sides **MOVABLE,** at an additional cost of 15c per side.

MANUFACTURER OF

DUNHAM FOUNDATION,

AND AGENT FOR

FLAT - BOTTOMED MAKE.

Will pay highest price offered in GLEANINGS from month to month for beeswax, delivered at depot here.

DEALER IN ALL KINDS OF APIARIAN SUPPLIES.

Send for Illustrated Price List for 1884 *FREE.*

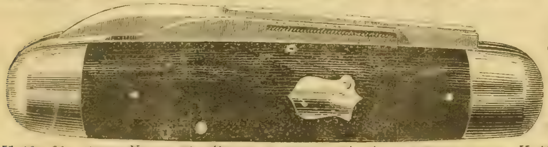
W. T. FALCONER, - - JAMESTOWN, N. Y.

HEADQUARTERS IN THE WEST FOR CYPRIAN AND ITALIAN QUEENS.

Tested Cyprian queens from imported mother (Jones's importation), in April, $5.00; in May, $4.00; in June and after, $3.00. Warranted Cyprian queens, in May, $2.00; in June and after, $1.50. Italian queens from imported mother (Root's importation), after 15th May, $1.00. I have had experience in breeding queens, and guarantee satisfaction. Order now, and pay when you want queens.

4tfd Address **W. McKAY DOUGAN, M. D., Seneca, Newton Co., Mo.**

THERE OUGHT TO BE DEMAND FOR KNIVES THAT WILL CUT!



Stores are full of knives that were made to *sell.* Our picture shows exact size of our 2-blade knife made from *razor steel, hand forged* and replaced *free* if soft or flawy. Price post-paid, 75c; with 3 blades, $1. Our extra strong 1-blade for rough usage, 50c; same with 2 blades, 75c. Pruning Knife, 75c; Hunting-Knife, $1. Cattle Knife, $1. Pruning Shears, $1. Ladies fine 2-blade Knife, 50c. Forty-page list free, also "How to Use a Razor." **MAHER & GROSH, 74 N. Summit St., Toledo, Ohio.**

NEW
Vegetables
A Specialty.
GREGORY'S
SEED
CATALOGUE.
1854.-1884

My Vegetable and Flower Seed Catalogue for 1884, the result of thirty years' experience as a Seed Grower, will be sent free to all who apply. All my Seed is warranted to be fresh and true to name, so far that should it prove otherwise, I agree to refill orders gratis. My collection of vegetable Seed, one of the most extensive to be found in any American Catalogue, is a large part of it of my own growing. As the original introducer of Eclipse Beet, Burbank Potatoes, Marblehead Early Corn, the Hubbard Squash, and scores of other new Vegetables, I invite the patronage of the public. In the gardens and on the farms of those who plant my seed will be found my best advertisement.

JAMES J. H. GREGORY, Seed Grower, Marblehead, Mass.

STANLEY DOLLAR SMOKER

A large 3-inch barrel Smoker, made of best material, and warranted to give satisfaction for the very low price of $1.00 each or $9.00 per dozen. It has the most perfect draft of any smoker in use, and has no slides or screens to get out of order. PERFECTION, SIMPLICITY, DURABILITY, and ECONOMY. Ask your supply dealer for it, or send $1.00 to the manufacturers and get "The Stanley," at once; 25 cents extra by mail. Liberal discount to the trade.

We shall continue the sale of the U. S. Standard Honey-Extractor at 10% less than factory prices. They are made duplex reel to turn the combs without lifting from the can for any size of frame up to 10x20 inches, and larger sizes can be made to order on short notice.

In addition to the above, we shall continue the manufacture of our celebrated Vandervort Foundation at very reasonable prices.

☞ All correspondence answered by return mail. Write, stating just what you want, and we will give you a good trade. Address all communications to

1d **G. W. STANLEY & BRO., WYOMING, N. Y.**

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KIND WORDS FROM OUR CUSTOMERS.

HAS GLEANINGS PROVED A GOOD INVESTMENT?

I have just placed the last number of GLEANINGS for 1883 in the binder; and if I ever made a better investment of a dollar, then I am sure there is something I have forgotten. C. W. DAYTON.
Bradford, Iowa, Dec. 24, 1883.

Yes, sir! I thank you from the bottom of my heart for publishing such a splendid journal for so little money. You are the kind of a Christian I should like to be personally acquainted with, but I have never been so fortunate as to know one.
CHAS. R. THOMPSON.
Fort Omaha, Neb., Nov. 27, 1883.

OUR NEW FORCE-PUMP.

The force-pump came in good time, all O. K. It is a wonderful thing for the money.
JAMES DICKSON.
Glencoe, Washington Co., Oregon, Dec. 14, 1883.

A KIND WORD FOR COOK'S MANUAL.

I intend to purchase a few swarms of bees in the spring to start with. I have read Prof. A. J. Cook's "Manual of the Apiary," and would not take its weight in gold for it, if I could not procure another like it. P. P. MEKEEL.
Sparta, Kent Co., Mich., Dec. 14, 1883.

Dear Friend Root:—I wish to tell you that those goods you sent us came all right, and nothing was wanting. You sent me very nice lumber for those hives. Please accept our thanks. We find it a pleasure to order goods from parties like you; and if we need any more goods in your line, will order from you. I have six strong hives of bees (at least they were so in the fall). I commenced a little over a year ago in the bee business, but have not prospered as some do. The reason was, I had black bees to commence with, but have them Italianized now. We intend to visit you in the spring (if the Lord will), and see the "Home of the Honey Bees." We will board out that 85 cents you owe us when we pay you that visit. We will be apt to be very hungry if we come all the way over there.
LIDIA, Wife of John Sollenberger.
East Union, O., Jan. 15, 1884.

[Thank you, good friends; but you won't need to use the 85 cts., for we never make any charge to bee-keepers who come to see us and bring their wives along, even if they are "ever so hungry."]

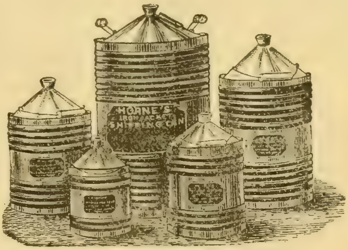
Bees For Sale.

I have for sale 40 colonies of Italian, Hybrid, and Black Bees, in Simplicity and 1½-story L. hives. Can deliver in March or April. Also a dozen 3-frame nucleus colonies, in good condition. All on reasonable terms. L. M. SHUMAKER,
North Danville, Va.

TIERING-UP PLAN.

Sample 8 L. Frame Hive and Case for 1-lb. sections, $1.00. N. E. DOANE,
2 3 4d Pipestone, Berrien Co., Mich.

SHIPPING-CANS For HONEY



"Iron-Jacket" Honey-Cans.

I presume the friends are aware that ordinary tin cans are not very safe for shipping full of honey, unless boxed or crated. The cans above are ready to be shipped anywhere.

PRICES.

1	Gallon,	$0.25 each.
2	"	.38 "
3	"	.47 "
5	"	.68 "
10	"	1.10 "

On an order for 10 or more, we will make a discount of 5 per cent, and for 100 or more, 10 per cent, and the order may be made up of different sizes.

By figuring 11 lbs. of honey to the gallon, you can easily see how many pounds each can holds. They are made from tin plates. A sheet-iron casing, with wood bottom, protects them from bruising. The iron jacket is stronger than wood, and far more serviceable. They neither shrink nor swell, and do not split nor fall apart. Every can is tested by steam, and guaranteed to be tight.

A. I. ROOT, Medina, O.

SMITHS' PRICE LIST
FOR 1884.

If you want any thing in the line of BEE-KEEPERS' SUPPLIES send for our Illustrated Price List before you buy. Special attention given to the Simplicity One-Piece Section.

The Triumph Hive,

also Simplicity and Langstroth Hives, Smokers, Comb Foundation, etc. SMITH & SMITH,
2d. Kenton, Hardin Co., Ohio.

VANDERVORT
COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfd JNO. VANDERVORT, Laceyville, Pa.

THE ALL-PURPOSE HIVE.

Arranged for continuous passage-ways, continuous combs, no honey-board, no bee-space, chaff and single-walled, no patent. Sample in flat. Given fdn., sections, etc. GEO. F. WILLIAMS,
2-3-4-5-6-7d New Philadelphia, Ohio.

WANTED.—8000 lbs. of extracted white-clover honey, in lots of 1000 lbs. and upward. Parties will please send samples of honey; state quantity, and lowest cash price delivered. JAS. RUTHERFORD,
106 E. Ferry St., Buffalo, N. Y.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CLEVELAND.—*Honey* has been a little slow for a week past, but prices are unchanged; best 1-lb. sections sell at 18@19c; best 2-lb. sections, 16@17c. Second quality slow at 2 cts. less. Extracted, as usual, is not wanted. *Beeswax* is in excellent demand at 30 cts., but no supply. A. C. KENDEL,
Jan. 11, 1884. 115 Ontario St., Cleveland, O.

CHICAGO.—*Honey.*—The demand for honey is very light, and prices are uncertain; but with a weak market, concessions are made. Quote 1-lb. sections 15@20c.; 2-lb. sections, 14@16c. Extracted, 7@10c. *Beeswax*, 30@35c, according to quality.
R. A. BURNETT,
Jan. 12, 1884. 161 South Water St., Chicago, Ill.

ST. LOUIS.—*Honey.*—Comb honey is dull, retailing at 13@17 cents; 18 cts. for extra fancy one-pound sections; 2-lb., 14@16 cts. There was not much demand during the last week. Extracted honey sells in cans say 2-gallon, at 10 cts., retail; in barrels at 7@8 cts.; half-barrels, 7@8 cts. There is not much demand. *Beeswax.*—Our market for wax is strong, dealers paying 32@33c for the article as it arrives. There is not much coming in, and the stock in the city is small. We think that it will go to last year's top prices. W. T. ANDERSON & CO.,
Dec. 29, 1883. 104 N. Third St., St. Louis, Mo.

DETROIT.—*Honey*—The market is steady, though not very active. Good samples are bringing 17@20c.
Beeswax.—Scarce at 30c. A. B. WEED.
Detroit, Mich., Jan. 14, 1884.

CINCINNATI.—*Honey.*—There is no change to note in the honey market. The demand is generally improving for extracted honey, but supplies being large and arrivals plentiful, there is no advance in prices. I expect a large demand in the next few weeks. The market for comb honey is very tame, without change in prices. The best in small sections brings 16@20c from store. Extracted honey 7@10c.
Beeswax brings 30@34c on arrival. C. F. MUTH.
Jan. 12, 1884. 976 Central Ave., Cincinnati, O.

BOSTON.—*Honey* moves slow, all kinds. 1-lb. sections, 18@20c.; 2-lb. sections, 16@18c. Extracted, 8@10c. *Wax*, none. BLAKE & RIPLEY,
Jan. 11, 1884. 57 Chatham St., Boston, Mass.

KANSAS CITY.—*Honey.*—The extremely cold weather of the past week has put a check on the movements of honey, both in and out, and some light concessions made in prices. Extra choice, 1 and 2 lb. sections, 17@18c. Dark and irregular, 15@16c. Sales for the week, about 2000 lbs.; receipts, 3000 lbs. Extracted, slow. Sales about 2500 lbs. at 8@8½c. Receipts light.
JEROME TWICHELL,
Kansas City, Mo., Jan. 7, 1884. 514 Walnut St.

Inclosed with the above report, friend T. sends us a printed slip, containing such good advice to honey-shippers that we give it entire here:

TO HONEY-SHIPPERS.

I receive a great many letters asking what I am paying for honey, how to ship, whether freight or express, what size cases, etc., and to answer all as clearly as possible, I submit the following:

First, I prefer not to buy honey outright at all, as I am a commission merchant and not a speculator; but when I do buy, of course I expect to pay less than what the net proceeds would be if sold on commission. I charge 5 per cent commission for selling, and that covers the entire expense except freight. When goods are held for a limited price by instruction of shipper, then a reasonable storage fee is charged. When no limit is placed on the goods they are sold just as quickly as possible after arrival, at the very best price that can be obtained, and returns made at once. In my market reports to the different bee journals, I try not to mislead shippers by exaggerated prices, but, on the contrary, I am careful to fall rather below than above the prices obtained, thereby insuring better satisfaction to the shipper when he receives his account of sales, showing frequently better prices than he had anticipated.

MANNER OF PACKING.

All honey-producers will, of course, know that in packing the sections in the case, they must be so arranged that the combs will not touch each other nor touch the sides of the case, and that they must be wedged in so that they are absolutely immovable by the ordinary jar of handling the cases. I would recommend always the use of the paper pan in the bottom of the case (heavy manilla paper folded at the corners in the form of a pan). It catches all drippings, and preserves the cleanliness of the case. The cases should be of clean, new lumber, well fastened together, with a panel of glass in one or both sides, and as light as possible. The glass serves the double purpose of insuring careful handling, and also affording the retail merchant a neat and convenient package from which to sell the honey.

SIZE AND SHAPE OF CASES.

Next, as to size and shape of cases. These should be as nearly uniform among all packers as possible, and I would suggest as follows, viz.: 1-lb. sections put 4 lengthwise and 6 across in a one-story case, or double in a two-story, making, say, about 20 lbs. in one and 40 in the other. 2-lb. sections, put 3 lengthwise and 4 across, making either one or two stories, and about 20 and 40 lbs. in a case. Larger sections than 2 lbs. I do not recommend at all, so have nothing to say about sizes of cases for them. Secure the lids with small nails, and not too many. *There should always be hand-holes* on the ends of the cases, to insure the careful handling of them. Mark the weights on end of case, *never on top*, as they become blurred. The net weights are not essential, but the weights of the cases, or tare, must always be plainly given.

Extracted honey I prefer in 5-gallon square tin cans with screw tops, packed two in a case. If, however, these are found more expensive than barrels or kegs, the latter will do. Pails are not desirable for this market; though broken comb may be put in 10 to 25 lb. pails, and in that shape will usually bring 6 or 7c. less than sound combs in the boxes.

In marking for shipping, use a very small stencil or card. If the above suggestions are adopted, comb honey may be shipped any reasonable distance by freight with perfect safety, and will bring better prices and quicker returns than the usual slip-shod cases in all sizes and shapes. JEROME TWICHELL.

I have 3000 lbs. extracted honey, half white clover, the other half basswood. It is put up in 50-lb. tin cans. Will take 9c per lb., with the can, crate it, and deliver on board the cars at Palestine Station.
Petersburgh, Mahoning Co., O. WM. BARTH.

I have 2000 lbs. of fine white-clover honey, in sections, that will weigh 1½ to 2 lbs. each, that I will sell. J. A. NEWTON.
Boonville, Warwick Co., Ind.

FRUIT AND HONEY.

20 BLACK TARTARIAN CHERRY-TREES BY Express for $1. *Well packed.* These are from two to four feet. Can send 20 small ones by mail postpaid for $1. CHAS. KINGSLEY,
11tfd Greeneville, Greene Co., Tenn.

FOR SALE!

As early as wanted in the spring, a large number of swarms of

ITALIAN AND HYBRID BEES.

Bees and Queens in their season cheap. After July 1st, almost given away. Address,
1d A. W. CHENEY, Kanawha Falls, W. Va.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.
F.A. Whiting

Vol. XII. JAN. 15, 1884. No. 2.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

VIRGIL'S TREATISE ON BEES.

Concluded.

UPON the capture of Proteus, as told last month, a little angry parley ensues between him and Aristæus; and then Proteus breaks the seal of mystery, and discloses to Aristæus that he stands charged with the death of Eurydice, and her husband Orpheus; and that the wood-nymphs, that were companions of Eurydice, had destroyed his bees as a punishment. It appears that Aristæus once entertained in his heart a wicked design toward Eurydice. She was aware of it, and kept out of his sight. In order to avoid him one day, it was necessary to creep along the brink of the river. A deadly serpent, that she might easily have seen and avoided, lay in her way; but as her eyes and thoughts were wholly occupied with a different danger, in another direction, she ran directly upon the serpent, and was bitten, and died. Aristæus appears not to have known that there was any connection between her death and his wicked intent; and so he dismissed the whole subject from his thoughts. How forcibly this brings out the evil character of *meditated* sin! We don't know how much evil it may be doing, to others as well as to ourselves. If we could grant the truth of the story, it would be quite a subtile question to determine just how far Aristæus should be held responsible for the frightful and far-reaching results of his uncommitted act.

Well, this thread of connection enabled Virgil to tell a considerable part of the story as an embellishment to his bee-poem. It is one of the most pathetic and beautiful of all the ancient fables; and, as we here have Virgil at his best, I will be brief in my comments, and insert the most of it. You will understand that Orpheus was a most wonderful musician. He conceived the bold design of influencing by his music the beings that had charge of the souls of the dead, and making them release Eurydice, and return her to this world.

THE GRIEF OF ORPHEUS.

Orpheus, making loneliness more lone,
His frantic love did to his harp intone;
Thou, sweetest wife, his theme wast evermore,
While wandering on the solitary shore:
Of thee he sings when peeps the morning day,
Of thee he sings when evening fades away:
He entered e'en the mountain jaws that bound
The lofty gates of Pluto's realm profound,
And in that forest, with its misty gloom
Dark with the dread reminders of the tomb,
Drew near the realms departed spirits own,
And faced the king of terrors on his throne:
Hearts never known in pity to relent
At human prayers, his tearful music bent.

THE ASTONISHMENT IN HADES.

Then from the lowest seats, deep down within
The land of death and darkness, spirits thin,
Forms void of life and light, a ghostly throng,
Rushed forth together, startled at the song.
So thick gregarious birds in thousands fly
To join in chosen groves when night is nigh,
Or when, from mountains driven, in troops they form
To seek a refuge from the winter's storm:
Mothers and men, heroes in glory slain,
In immaterial forms compose the train.
Boys, girls, not yet of age to wed,

Youth in its vigor numbered with the dead,
And laid on funeral piles that flame the skies
Too soon, before their weeping parents' eyes.

THE BOUNDARIES OF HADES DESCRIBED.

Around them all infernal rivers wind,
Dark with deep mud, with reeds unlovely lined.
Slow creeps the reeking swamp, nor brisk, nor still,
Waves murmur not of love, but death and ill:
Yea, nine-fold Styx surrounds, and flows between
Their clime and ours where sunlight beams serene.

MUSIC CONQUERS THE INFERNAL POWERS.

Infernal dynasties, the powers below,
Dozed by the music, let their natures go;
The Furies, even, in the lowest hell,
Twined with blue snakes for hair, confessed the spell;
And Cerberus, the dog of hell's police,
Ope'd his three mouths to bark, but held his peace.
Torment and grief subsided at the song,
While Orpheus as a conqueror passed along;
And Ixion's torture-wheel, unknown to pause,
Stopped, as he named, and pled, and won his cause.

RETURNING WITH EURYDICE.

Turning his glad foot homeward now at last,
His toils were o'er, and dangers all were past;
Eurydice, the darling of his care,
Surrendered, just approached the upper air,
Behind him keeping; for the infernal queen
Bade for the journey that she be not seen.

A MOMENT'S FORGETFULNESS.

Ah! sudden thoughtlessness did seize just there
The incautious lover of the rescued fair—
Most pardonable, truly, did they know
How to forgive in the drear land below.
His own Eurydice he now had brought
Beneath the light, her eyes the beam had caught,
When, conquered of the love that swept his mind,
Forgetting then, alas! he looked behind.
Ah, wretched Orpheus! in that very spot
All of his labor instant came to naught;
And there the terms of death's stern tyrant broke,
And thrice did Hades crash with thunder stroke.

EURYDICE'S FAREWELL.

O Orpheus! why, in piteous tones she cried,
Hast lost thyself, and thine unhappy bride?
What is this power? I feel its furious breath;
Harsh fates recall me to a second death;
Sleep shuts my swimming eyes with iron spell;
It is the sleep of death; and now farewell.
In thickest night enfolded round and round
I'm borne away, a helpless captive bound;
Alas! no more your happy bride I'll be,
But to the last I stretch my hands to thee.

DESPAIR.

She said; and from his eyes like smoke in air
She fled dispersed, no vision more was there.
Grasping at shadows wildly and in vain,
Frantic he stood alone upon the plain,
Thinking so many things he wished to say,
But she who might have heard had passed away.
Returning quickly to the infernal shore,
The ferryman refused to take him o'er.
What should he do, his wife twice snatched away?
Where bear himself? or what device essay?
Or with what weeping should he move the grave?
Or with what song persuade the gods to save?
All vain! cold in the Stygian boat she lay.
And now for ever more she floats away.

ORPHEUS IN THE WILDERNESS.

For seven long months in order, they declare,
He wept beneath a rock that rose in air,
Where lonely Strymon's river rolls its waves,
And sang these things within its chilly caves:
He calmed the tigers' bloody thirst with song,
And moved amain the mighty oaks and strong.
Thus her lost young the mournful nightingale
Beneath the poplar's shadow doth bewail.
A plowman found them, as unfledged they lay,
And with hard heart he snatched them all away;
And seated on a bough she weeps her song,
Repeats it o'er and o'er the whole night long;
With sad laments she fills the land afar,
And sadder yet the songs of Orpheus are.

ORPHEUS AMONG THE HUSBAND-HUNTERS.

No sweetheart, in the guise of pitying friend,
Could Orpheus' mind toward further hymen bend.
Far off alone his heart was fain to go
O'er hyperborean ice and Russian snow,
His lost Eurydice bewailing still
And Pluto's gifts, that proved so vain and ill.
At length the Thracian women on him turned,
Whose brazen favors he had coolly spurned,
And in the frenzy of their midnight feasts,
Held to the god of wine, like savage beasts,
They strewed the youth so late their hope and pride,
Torn limb from limb through meadows far and wide:
Then also when the river Hebrus rolled
His head torn from his marble neck so cold,
Down the mid whirlpool bearing it away,
The wonted voice refused to silent stay.
"Eurydice!' the cold tongue called once more,
His soul departing for the silent shore,
"O poor Eurydice!" and echoes came
From all the banks bearing the precious name.

I can overlook the heathenism of all this in consideration of its tender and majestic power. Too sentimental? Well, perhaps it is. At any rate, Orpheus completely beats the undutiful wife who would say "scissors."

And Aristæus, at the conclusion of such a counterblast, naturally trembled, and felt pretty blue; but his mother quickly cheered him up. The cause of the disease among his bees was now known (and it wasn't pollen either), and she knew that the nymphs would quickly forgive, if they were properly worshiped with sacrifices. Very briskly she reeled off the various steps to be taken to make all straight. Four bulls and four heifers must be sacrificed to the nymphs, and the bodies left in a grove. Next, after waiting nine mornings, he was to offer poppies to Orpheus, and a young heifer to Eurydice, and a black sheep (emblem of himself, I reckon), and then he must go again to the grove where the first sacrifices lay. He did so, and behold bees were swarming out of every carcass. On a prominent tree they clustered, making it look as if it were hung with great clusters of grapes — evidently not one swarm only, as a word in my last article would indicate, but eight swarms. We may safely assume that he hived 'em "quick sticks," and "had no trouble any more, any more."

Then with compliments to Augustus the emperor, and a little chattering about himself, Virgil brings his remarkable poem to a close. E. E. HASTY.

Richards, Lucas Co., O., Jan. 7, 1884.

Friend Hasty, if the man who doesn't love music is "fit for treason, strategy, and crimes," it must be equally so, we think, of him who can not follow with pleasure this insight you give us into Virgil's mind.

KENTUCKY.

CORN SILK FOR WINTERING.

WE are having one of the severest winters ever known in Kentucky. The fall, and until the middle of December, was delightful. December 16th it commenced snowing, and has either snowed, rained, or been very cold, every day since. On the morning of January 5th the thermometer registered 20° below zero—a cold never known here in the memory of any.

Bees were in a fine condition in the fall, both in stores and numbers, and where properly prepared will likely go through all right; but many bee-keepers, through neglect, will lose heavily. My 70 colonies, so far as I can discover, are doing well, and I have no fears of losing any, except from long confinement. I winter on the summer stands, and pack them a little differently from most persons. I spread the combs so that eight or nine will fill same space occupied in summer by ten. Then placing sticks crosswise of the frames, to allow a passway for the bees, I spread a cloth above them, and pack on the top of this two or three inches of corn silks. For packing, these are superior to any thing I have yet seen or heard of. They are clean, and excellent non-conductors, and will more readily absorb the moisture than either chaff or sawdust, and yet remain perfectly dry. They are easily collected by a boy when men are husking in the fields; and when taken off in the spring can be stored away for another winter. Knowing the value of them by experience, I hope that many of our brother bee-keepers will give them a fair trial. Please give us your opinion of them in GLEANINGS.

Walton, Ky., Jan. 12, 1884. L. JOHNSON.

SOMETHING MORE ABOUT THE JONES PERFORATED ZINC.

HOW THEY LIKE THEM IN CANADA; AND SOME KIND WORDS BESIDES.

AS you desire information from Canadian bee-keepers who have used Jones's zinc honey-boards, we thought perhaps our experience with them would be of some interest to the readers of GLEANINGS.

We tried the first over a colony of strong Italians, which were in splendid condition to commence work in the upper story. We put on our honey-board, and after about a week we removed it again, feeling sure that we were losing honey, for not a bee would commence work above that honey-board, although we tried to tempt them up by putting ten frames filled with fdn. in the upper story.

We tried it next time over a colony that was just overflowing with honey, so that they were compelled to commence in the upper story. At first we thought all was going to be right this time; but when we examined the frames we found them full of brood, so we concluded that the queen got through the zinc. We also tried the guards, to prevent swarms on Sundays, but we proved to our entire satisfaction that the queens got through them also.

While we feel that our experience with Jones's honey-boards has not been a complete success, we think it very possible that D. A. Jones will so improve them that they will yet work in an entirely satisfactory manner.

We have used your little bread-pan feeders, but found that the bees would get drowned, more or less, in spite of the cloth. We think that we improved them by painting them outside and inside, and sprinkling them while wet with fine sand. Try it.

You can not imagine how much we enjoyed all you said in Oct. No. GLEANINGS about Canada and us Canadians. It was indeed a great pleasure to shake hands with you (we had the honor); but the way *in which you spoke of Old England and our Queen made us feel that there was not so much difference between us* after all. Such language will do more toward annexation than all the American army on our frontier. GRAINGER & DUKE.

Deer Park, Toronto, Ont., Jan. 14, 1884.

Friends G. & D., we are very much obliged indeed for your report, as well as your kind concluding words. I am inclined to think, from your statement, that the bees *will* work through the zinc honey-board, if they are started all right. I have a great many times seen Italians that would not readily at first take to the frames filled with fdn. in the upper story, although when I lifted one of the brood combs from below, and put a sheet of fdn. in its place, they all went up in a rush. Now, was not this the case with your first experiment, and would it not have been pretty much the same, if you had not used the zinc honey-board at all? Your second experiment proved nothing against the honey-board, more than that it let the queen through; for if she went up, the bees certainly went up first, so the honey-board was no hindrance. Perhaps some further trials might work all right, especially if the hive contained a queen with a little broader shoulders. One great use of the zinc honey-boards, as I understand it, is to keep the bees from building combs between the upper and lower stories; for this, with a great many colonies, has proved a very great nuisance.

LETTER FROM ONE OF THE A B C SCHOLARS.

SOMETHING, ALSO, IN TRANSFERRING BY THE A B C BOOK.

WELL, here I come, a subject for the waste-basket. Hardly got my A B C's learned yet, but have done as well as I could, and oversee a farm besides. I thought I had done my share of hard work in years past, and took up bee-keeping for both pleasure and profit. One year ago last fall I bought three swarms in what was but little better than store-boxes. One, I think, was a boot-box. Of course, I had to get them home, and just how to do it successfully was the question. Well, I waited till cold weather, and tied the bottom-boards on with ropes, stopped all open places with rags, and their name was legion; set them on some hay in the wagon, packed the same around, and drove slowly home. When I began I knew about as much about bees as a guinea-pig does about the north pole (or some of our late explorers either; can't see much difference). All I knew to a certainty was, that they had one sharp end, and gathered honey.

I got them home all right, made a little shed for them fronting the south, and just north of a peach-grove, just far enough from it so the sun would strike the hives over the trees, packed all around, except the south, with hay, just as well as I could. In the coldest weather I banked up the south side also. They came through all right.

If I am correct, about that time I got my A B C book, and the mysteries of the honey-bee began to vanish. Well, the time came for transferring. I was very anxious to get it done, yet dreaded it. I got my traps, carried a hive a few rods to a bare spot of ground on the sunny side of a building, and off with one side-board (having previously given them a little smoke), and began cutting out the combs. I had the hive turned back against the building, and all was going along finely when the fuel in the smoker became exhausted; in fact, the thing went out. The bees were in large clusters in and around the hive, and I expected every moment they would break loose in a mass and go for me. My wife was as badly scared as I was, and pretty nearly cried. I replenished the smoker as fast as possible; but as good luck (we thought) would have it, not a bee peeped. Our fears were needless. The vigorous way my wife had used the smoker had burned it out too soon, but it had done its work, the poor bees being smoked to suffocation, and we had not sense enough to know it. But as every thing has an end, so did that transferring job end also. The other hive went off a little better; yes, a good deal better, and the last was just fun.

Let me tell a little I did not find in the books. For a support for my frames and combs in fitting, I laid two Simplicity covers side by side; had a cloth nearly large enough to cover both, fastening it at the outside corners, letting one edge of the frame lie near the division in the center. The comb being in, I slipped the wire clamps on one side, then raised both covers to an erect position with the frame between, then tipped the frame against the opposite cover, laying them down as before, leaving the other side up to clamp also. By doing this I had no trouble with slipping combs. After a while my bees began to swarm, and I hived them all right, with the help of my wife, whose father used to keep bees on the "gum" plan.

During the summer I formed two nuclei, and got good queens both times. I placed a frame of capped brood on each side of one containing eggs, being sure the eggs were at the bottom. Then I moved a strong colony to a new stand, setting my new swarm in its place, making the change during "working hours." A part of this was a little different from the books, but it worked well with me. I put on top stories without foundation in them, and I'll never do so again, unless I have frames of empty comb. When they were filled, oh what a mess! Instead of the bees building down, about two-thirds their combs were built up, and crosswise at that. The only way I could get at the frames was to loosen the whole business, and turn them out on a board.

Now I'll tell you how I fixed the colonies for winter. I was so busy I did not get them fixed up till it was quite cool. "All wrong," you say; well, I know it, and will try not to get caught that way again. It was so late in the season I thought best to take them a hive at a time in an empty room with a fire. I did so; commenced with the heaviest first, so as to have supplies, should any be weak. I left in from four to six frames, according to the size of the swarm and weight of the frames. For division-boards I used a board the size of a frame, with chaff cushions at the bottom and ends. Why I used this, was because I did not have the thin sides for the regular board. I packed back of these with oat chaff; laid sticks on the frames, put on a top story, put over the frames a piece of coffee-sack, filled the top with chaff, put on my cover, and took them to their summer stands, having previously got the few bees that went to the window into the hives the best I could. I will let you know their condition in the spring. I began with three colonies in the spring, and increased to ten. Shall trust chiefly to natural swarming for increase, until I learn other methods better.

A. B. WARNER.

White Rock, Kan., Jan. 7, 1884.

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MOVING BEES TO CATCH THE BASSWOOD BLOOM.

I AM about to bother you with one of my latest hobbies. In this locality the first of July finds our pets strong in numbers, but with nothing to do. White clover usually gives out by the last of June; basswood is not very plentiful; and besides that, it usually opens about the 20th of June, and fails by the first of July; after that there is scarcely any thing for the bees to get. As I am situated at the terminus of the Wheeling, Lake Erie & Marietta Railroad, I have a plan under consideration to try the feasibility of moving a carload or 100 colonies of bees to some point between here and Toledo, on said road.

Friend C. G. Knowles, of Portland, O., was here to-day, and we had a lengthy discussion on the subject, and came to the final conclusion that, if possible, we would try the experiment this season if there is a basswood bloom in prospect. During our conversation we naturally drifted on to the preparation of the bees, and especially the best methods of finding a suitable locality, where we would not interfere with the interests of any of our brother bee-keepers. As the experiment would interest many of our bee-keeping friends, we rather reckoned on your assistance; that is, such advice as you might be able to give us. At any rate, we should like to have your opinion on the subject as early as convenient. I think that the expense of moving bees both ways should not exceed 75 cts. to $1.00 per colony.

We could be up there the first week in July. We should probably get the whole basswood season. Rousing colonies, as we should have at that time, would no doubt pile up the honey very fast. I am just now thinking what fun it would be, after the honey season was over in Ohio, to jump another 300 miles, and catch another honey flow. But then, we will try one at a time. If I am correct, the basswood-trees form the buds and leaflets 3 or 4 weeks before they open and secrete honey, which should enable us to ascertain in time whether to move or not. We would, of course, give an account of the success or failure, in GLEANINGS, in due time.

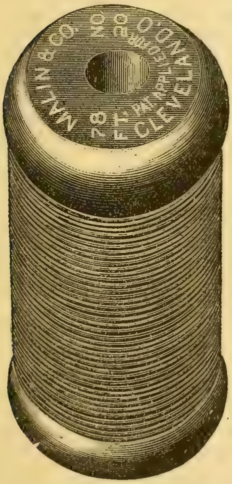
Marietta, O., Jan. 8, 1884. R. STEHLE.

Friend S., I think you are on a track that will be vastly more feasible, at least for the present, than planting forage for bees, or almost any thing else. It has been proved beyond question, that it is not a difficult matter at all to keep the bees right in the midst of the height of basswood and clover, for at least many months. You remember that I told you, two years ago, about a colony that gathered 18 lbs. in a single day from basswood bloom. They were on the spring scales, so there was no mistake about it.

They made very good results for several days. But within a week after this great yield they tapered down to nothing, and then we had robbing and all such like work. Well, after our bees had been entirely out of business for two or three weeks, I took a trip up into Michigan, and found a friend there right in the height of a beautiful basswood flow, and there would have had been ample time for us to have moved up there half a dozen times. One of the main points to consider is, to find heavy basswood timber right along some main railway line where we can get a regular rate of freight at low prices. I think I would have bees enough to fill a car, and then go right along with them. One or two hundred miles at a time is as far as it will pay to go. Either go over the route beforehand, or by correspondence have every thing arranged so as to know just where to go. There are many large heavy tracts of basswood timber, and I am well aware it will pay splendidly to move our bees into the vicinity of these large tracts. As clover is usually found near basswood, we ought to manage so as to strike near both as much as possible. As a general thing, I believe clover honey commands the best prices. If you get a car, I think it can be managed so that the expense will not be more than 50 cts. per colony, each trip—that is, where you manage to have from 100 to 200 colonies, by clubbing with your neighbors, or otherwise. In a good locality, in the height of the basswood flow, 200 colonies would do very well in one locality; but it would not be a great expense to scatter them a little by putting off, say 50 or 100 at one station, and as many more at the next, and so on. Hives should be light, and combs as nearly empty as possible, without endangering the bees from starvation. Some arrangement should be made for quickly fastening the combs. Spacing-boards are the best of any thing I know of now. Simplicity hives, with wire cloth over both top and bottom, will do the business nicely. A very light cover might be used for these summer trips; or if you are all the time in the honey-flow, perhaps you could get along without any bottom-board at all. Who can give us some facts from experience in just this kind of work? I believe it was practiced by quite a number of the brethren during the past season. If they will speak out, we will try to give them space.

A BIT OF WIRE.

ANOTHER IMPROVEMENT IN HOUSEHOLD CONVENIENCES.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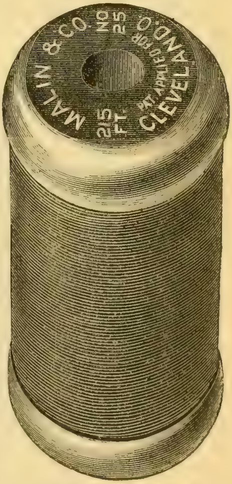
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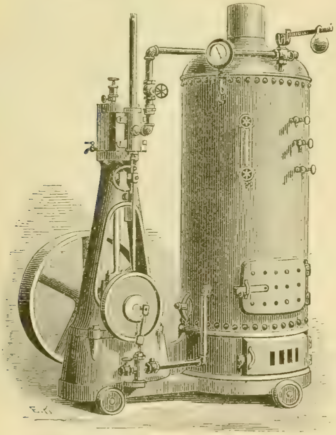
CLEVELAND O.

DEAR FRIENDS, did you ever want a bit of wire when you could not find it? and did you ever have a bit of wire get tangled between your legs, and almost trip you down, when you did *not* want to? Well, the engravings are intended to illustrate a way of remedying both of these evils at one clip. It is a plan to kill two birds with one stone, you see. I suppose you know that I have for years had copper wire wound on spools, on our five-cent counter. I knew when we started them that they were going to sell, for I was well convinced that one who had discovered what could be done with a little spool of soft wire would never afterward be without it. I think I got the idea from the *American Agriculturist.* Well, our trade has run up so that I have sold hundreds of pounds at 5 cents a spool. And just now some of our enterprising neighbors in Cleveland have started a business of winding wire of all kinds on spools. Each spool has a wire nail in the right place to twist the end of the wire around so it will not get loose, and snarl. Did you ever try to get wire out of a snarl? Well, with these spools, if you take any kind of care, you need never have a snarl at all. Just wind off what you want, catch the end around the nail-head, put it in your pocket, or put it away, as you choose. We have now in stock the sizes shown in the pictures, besides galvanized wire for the grapevines, put up in the same way. The price of the latter is 20 cts. per spool; $1.80 for 10 spools, or $16.00 for 100. If wanted by mail, 20 cts. each spool for postage. Notice how neatly the number of the wire and the number of feet on each spool is printed on each one. The two sizes shown in the cuts are annealed iron wire, shellac coated, so it will not soil the fingers. The price of these is 10 cts. per spool. Finer size, No. 25, you get 225 feet for 10 cts., or 2½ feet of wire for one cent, and the spool thrown in. The postage on these sizes will be 7 cts. each spool. Prices by the quantity, 85 cts. for 10, $7.50 per 100. On the 5-cent counter we have our usual copper wire put up on 5-cent spools.

ENGINES FOR BEE-HIVE MAKING.

WHAT SIZE SHALL A BEE-KEEPER BUY?

A GOOD many of the bee-friends make their own hives by foot-power buzz-saws; but those who make them the old-fashioned way, with the hammer, saw, and plane, are now very few. With his foot-power saw a man can earn very good wages indeed, making hives for his own use; but as I have so often told you, it is pretty hard work; and if he is prosperous he will very soon want a little engine. Our 2-horse-power engine at $175 will be appreciated amazingly after having made hives for a season or two by foot-power. But by and by the neighbors around him get into bee-keeping, and want hives also, and pretty soon people come from a distance to get supplies from him, especially if they find out that he has them on hand ready to load up when wanted. As the business increases, and he gets to making comb fdn., and section boxes also, a still larger engine may be needed — a 4-horse-power, for instance. During this season quite a few of those who have been several years at work are wanting something larger still; and therefore we have been obliged to look up a 6-horse-power engine, as I told you in the issue of Dec. 1. Below we give a cut of this 6-horse-power engine:



OUR 6-HORSE-POWER ENGINE FOR BEE-HIVE MAKING.

Unlike the cheaper ones, this boiler is *wrought-iron* tubular, and the whole is furnished complete, with all modern improvements. Further particulars will be given on application. We have just traded for a similar 6-horse-power engine that has been used only one year. We got it from our friends Smith & Smith, Kenton, O. Their business has prospered so much that they have started quite a large shop, with all improvements for doing a heavy business. The engine has all been painted up, and would readily pass for one that had never been used at all. We took it for an accommodation toward bee supplies and other machinery, and can furnish it to any one who needs such an engine, for an even $275. Full particulars will be furnished by us or friends S. & S., if any of you should be in need of one of this size.

THE OTHER SIDE OF BEE CULTURE.

SOME REBUTTING TESTIMONY.

FRIEND ROOT:—As I have always taken a back seat, and listened to or read what others had to say through GLEANINGS, and, having never intruded on your valuable time, I would like now a little space to tell what I know about

FARMING AND BEE CULTURE.

My reason for so doing is W. Z. Hutchinson's two last articles on the "other side" of bee culture. I think he is hitting just such as I when he hints that bee-keeping should be a specialty, in order to be a success, and that farmers can buy their honey cheaper than they can produce it.

Now, I have all due respect for friend H., and think very highly of him and his writings; and since my acquaintance with him some four years ago, I have read the "Notes from the Banner Apiary" aloud to my partner, first, on the receipt of GLEANINGS. I like his articles, because they are so free, generally, from theories, which is, I think, a great fault with the writings, to a great extent, in many of our leading agricultural and bee journals. Now, to be a successful farmer or apiarist, we must read in order to be posted and keep up with the times; and then we must have an average amount of judgment and common sense, in order to discern whether it is theory or practice we have been reading; also to discern what will answer in our locality; for what will be a success with Jones, Dadant, Doolittle, or Hutchinson, might be a total failure with me. Knowing this, then, let us be careful about crying humbug, or theory.

Now, I want it understood that bee-keeping has been a secondary business with me, doing my bee-work in the form of an odd job, as I could get the time, working regularly with my man at farm work, and I have the name of raising crops second to none in our locality. Now for the results of bee-keeping in a condensed form, for the last three years: Whole number of swarms owned in the three years, 105; whole number worked for honey, 46, spring count; sold 7 full swarms; lost by wintering, 52; cash receipts for the three years, $937. Now, I am not making this report to incite any one to false hopes, nor to brag, but to show what can be done by one who is not a specialist.

In another article, if you like, I should like to give my views as to the coming bee; how I do my bee work, and something in reference to buying bees by the pound. Friend H. speaks of "hawking honey" on the streets. Now, if he is willing to sell at wholesale, to a retail dealer, so he can make a profit, he will not be troubled with "hawking;" but if he wants the retailer's profit, he must expect to do the retailing. For me, I rather like that way of selling honey. I can take my team in the winter, when they or I have not much to do, and sell at retail, in almost any of our villages, from $10.00 to $15.00 worth of honey in two or three hours.

Now, friend Root, I think you will bear me out in saying, that if we take the standpoint of capital invested, the failures in bee culture are but small in comparison with most other branches of business.

Millington, Mich., Jan. 11, 1881. M. D. YORK.

FROM THE BOX-ELDERS.

MR. DUSTER RESUMES.

IT has been some time since we have heard from Mr. Duster, although we have interviewed him often the past summer, but were too busy ourselves to report. Early in December we saw, in passing, that his bee-yard was all cleared up — nothing in sight where there had been a small city of white bee-hives a few days before — all gone but the honey-house.

As we stood among the trees, with which the yard is liberally sprinkled, we were joined by Mr. Duster with "Yes, all in the cellar, snug, quiet, and warm; and as they had a good fly just before I put them in, I hope they will remain quiet until pollen comes next season. Every year I am more convinced we should not hurry our bees out in the spring, as a rule. I used to get them out about the 10th of March; in fact, I have had them carrying pollen the 15th; yet, just so long as they can be kept quiet, just so long let them alone, is my practice now.

"THE SEASON,"

said Mr. Duster, going on with the conversation, "I need hardly say, has been a very singular one in many respects. The electrical and atmospherical conditions surrounding our earth have been wonderfully disturbed. We have had winds and floods, hurricanes and cyclones, earthquakes and volcanic eruptions, until old earth has fairly rocked and reeled in mighty throes. Now, you see, with Teice down here in St. Louis, and Vennor over in Canada, across the line — position couldn't have been worse — the one predicting this and the other that — both trying to run the weather, and neither of them knew how; why, I don't wonder old mother Earth got the dyspepsia, like the rest of us — had a bad headache, with wind on her stomach, and a tremendous movement of her bowels — do you, eh? No; well, now Teice is dead, and Vennor comparatively quiet, I think the weather will resume its normal condition, although I wouldn't bet on it while Vennor lives.

"There never was a better show for honey, the first of the season, than we had in Northern Illinois. We had seas of white clover, and yet six to ten days of moderate yield was all we got. Half a crop is as much as the results will show. White clover failed to secrete, while, as I said before, there was a wonderful display of flowers, electrical conditions were not in favor of secreting the nectar. Sometimes I think I can tell *by my senses* just when the atmosphere is in right condition to secrete honey. Yes, I have often said to myself when away from my apiary, 'This is good honey weather — the bees are at work;' and when I go to see, I am hardly ever disappointed."

After disposing of weather and results of the season, Mr. Duster proceeded to discuss, with a good deal of animation,

SECTIONS AND SEPARATORS.

"I wish they would settle down to something — I don't see any use for half a dozen different-sized sections. Look at the bother, to say nothing of the expense of it. I don't believe it's going to pay; one wants as many sizes of cases to ship — different size of glass, and so on, as he has sections. Yes, and then what about the sections? In my opinion, I am fully satisfied that the bee-keeper who *ships* his honey can *never* use sections 2 inches wide, whether 1 ℔. or 2, without separators, with satisfaction. I say this after a great many trials and tribulations, in fact, and for these two reasons: First, I believe it is truth; second, it keeps a man from the strongest temptation of his life — to swear, inside or out. I can't tell it; how good a man feels as he packs in neat cases the beautiful white sections of honey for market! he is proud of it, as he has a right to be, and, of course, happy too. But just at this time he comes across one of these hateful, miserable sections — measly is no name to express it; with one side with a sickly cave-in, and the other swelled out as if it had a bad case of mumps, or something! Oh! I don't want any in mine, if you please.

"Now as to boxes 4¼x4¼x1¾ and 1½ inches wide: If we can not get along with them without separators, then farewell to all boxes less than one pound. I am in hopes we shall succeed with these narrow sections; but if they are unreliable, or are not pretty free from the trouble we have just been talking about, I shall relegate all but the 1 and 2 ℔. sections to everlasting limbo."

FEEDING BEES.

"Yes, I have just been reading about it, and this is my way. If I feed to supply stores, I put an 8 or 10 ℔. pepper-box feeder directly on the frames, and make a short job of it. If I feed for stimulating, I tip the hive back, the bottom-board being tight, pour the feed from a tin pot, made for the purpose, into the entrance of the hive. I can feed fifty stocks this way as quickly as I can ten in any other. How about robbing? Yes, I've seen the cautions; that is all very well; but I hardly think one of them has ever tried it. You must not suppose a man of sense will feed *this* way at all hours of the day. You don't suppose bees will rob or learn to rob after it is dark, or late sunset, especially if you are feeding dissolved sugar, as you ought to do? No, I guess not.

"Now it is wonderful," said Mr. Duster, emphatically, "how experiences differ in different localities, and yet, perhaps not more so than many farm crops, when we stop to compare. Here are a few

"EXPERIENCES

I have never had, and some that I have. Spring dwindling I never had. This is the reason: I don't winter outdoors to make 'em tough (?) you know! Foul brood I have never had any experience with; think it is not in this part of the State. I never had robbing in my apiary. Dysentery I know something about, although I have never lost a stock by it yet. I will only say this in regard to it: I think Quinby is right — cold and dampness do it. Heddon is right — pollen does it. Duster is right (sure, pretty sure), sour honey does it; and Novice is right, for you and I know there's belly-ache in sweet cider — sweet cider does it. What do I mean? Why, I mean that several things or conditions will bring it on. It comes over no royal road, but over many — I don't care to discuss it — that's all."

Here Mr. Duster branched off and commenced to talk about bees, and his bees in particular.

"I claim no superior excellence for my bees over others; I think them good. Every one who has been in the business as long as I have should have good bees, and not be particularly smart either.

"I started with the brown bee — great, good-natured fellows (?) who would come out on the alighting-board and bid you a friendly good-morning, wagging their heads this way and that, so knowingly one was almost ready to believe, as they could not *tip* you the *wink*, why, they would do the next best thing — nod their little heads in friendly recognition.

"Some twelve years ago I crossed them with Italians. I found, that somehow large individual yields almost invariably came from hybrid stocks, *and these of the first cross* — did not extend to further crossing. Stick a pin in there, will you? I kept a good portion of my stocks pure Italians, besides infusing fresh blood into them; yet these brown bees, with a little help outside, seemed determined that the Italians should not wear all the finery, but must divide with them. Some four years ago I commenced crossing my Italians with Cyprians. Now let me say, I do not have to protect my yellow bands. This state of things was especially noticeable this season — they have crowded out the hybrids wonderfully. This power of prepotency they seem to have prominently. It must be this, or else this cross has produced drones more active than others — perhaps both. From the experience I have had, I should judge that a cross of dark Italians with the brown bee would, in a few generations, if not constantly supplied with fresh Italian blood, produce nothing but brown bees. Solid colors in crossing will always assert themselves, other things being equal. Take, for instance, the Plymouth Rocks. They are a cross of, say, thirty years' standing, and yet a few years ago they would throw a completely black chick now and then, showing that the *solid black* color of the Java was still asserting itself over the hawk color of the Dominique. I have had the Plymouth Rocks for many years, and have to use the utmost vigilance in mating, to keep them near the standard. And I will add, in closing, that they are a splendid bird, and worthy of any pains one may bestow upon them. No birds for sale." R. H. Mellen.

Amboy-on-Inlet, Ill., Jan. 5, 1884.

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HUBER THE GREAT NATURALIST.

Also Something in Regard to Ancient Bee-Authors in General.

OLD BOOKS ON BEES.

IF you can not procure a copy of Huber (noticing in Gleanings of Dec. 15 you want one), I shall be pleased to lend you mine. It was printed in London, 73 Cheapside, 1841; has an abridged life of the author, from De Caudville, "Life and Writings of Francis Huber." A few extracts may be interesting to the readers of Gleanings.

He was born at Geneva, July 2, 1750. At the age of fifteen his sight began to be impaired, and in a few years he became totally blind. When any one spoke to him on subjects which interested his heart, his noble figure became animated, and the vivacity of his countenance seemed by a mysterious magic to animate even his eyes, which had so long been condemned to blindness. He was married to Maria Aimee Lellése, the daughter of a Swiss magistrate, and the marriage was in a high degree romantic. The attachment had begun in their early youth, but was opposed by the lady's father on the ground of Huber's increasing infirmity. The affection and devotedness of the young lady, however, appeared to strengthen in proportion to the helplessness of their object. She declared to her parents, that, although she would have readily submitted to their will, if the man of her choice could have done without her; yet as he now required the constant attendance of a person who loved him, nothing should prevent her from becoming his wife. Accordingly, as soon as she had attained the age (twenty-five years) which gave her a right to decide for herself, she, after refusing many brilliant offers, united her fate with that of Huber. The union was a happy one. She was spared to him forty years; and he says, as long as she lived he was not sensible of the misfortune of being blind. He died in the arms of his daughter, on the 22d of December, 1831, in the 81st year of his age.

He was a great naturalist — one of the greatest. He confirmed the discovery of the origin of wax, by experiments. He discovered the impregnation of the queen bee, and made observations on retarding the fecundation of queens beyond the twentieth day, etc. The publication of his observations took place in 1792.

I have several other old works, some very quaint and curious, and some very interesting, among which are the works of Warden, published in 1749; Thorley, 1744, and the work of the old bee-master Butler, published in 1673. Also the work of Purchas, printed in 1657. I will copy the title-page. It reads thus: "A theatre of Political Flying-Insects. Wherein Especially the Nature, the Worth, the Wonder, and the manner of Right-ordering of the BEE, Is Discovered and Described. Together with Discourses, Historical, and Observations Physical concerning them. And in a Second Part are annexed Meditations, and Observations *Theological* and *Moral*, in Three *Centuries* upon that Subject. By *Samuel Purchas*, Master of Arts, and Pastor at *Sutton* in *Essex*. Entered according to order. London, Printed by *R. I.* for *Thomas Parkhurst*, to be sold at his shop, at the Three Crowns in Cheapside, over against the Great Conduit 1657." Then comes six pages of "The Epistle Dedicatory," followed by "The contents of the several chapters," and "a list of such Authors as are cited and made use of in this Treatise." The names of over three hundred authors are given in alphabetical order; among them I notice that of Æsop, Aristotle, Columella, Hippocrates, Homer, Sophocles, Josephus, Varro, Virgil, and others.

Frequently, during a dreary, rainy winter evening, I get these old books out, and their curious get-up is so new and strange, an hour or two or more is profitably spent in examining, studying, and contemplating the books and their authors. Long f's for s, and big C's and T's connected. Do you think your A B C book will ever look as old-fashioned, and behind in the art preservative, as these appear?

The minds of good women and great men frequently run in the same channel — they think alike. Peter was the name given a son of Mr. and Mrs. Huber. Did he not, too, become a naturalist, and write of bees, ants, and wasps? W. P. Henderson.

Murfreesboro, Tennessee, Dec. 24, 1883.

Indeed, friend H., we are much obliged to you for your kind offer. We thank you, besides, for the glimpse you have given us of the writers on bee culture centuries ago. We have here in the office one or two works over 100 years old. But when you speak of going back to 1657, you leave us away out of sight. By all means, loan us that book on Huber. Send it by registered package, so it will not get lost. If I understand you, it is written in English. Was it not first written in another tongue, and then translated into English, or have I been misinformed? I should like the original, if we can get it, if we can get a modern translation made.

While at the Toronto Convention, Mr. Langstroth gave us quite a talk, mentioning many of the very same books you have cited. If I remember correctly, he said the only translation of Huber that we have in English is a very poor one.—Little Huber is daily waxing strong in body and mind, and his favorite pastime is now to get up on his feet, with a little help, and then sit down again, and keep doing the same thing over and over.

HOW I USE SINGLE-STORY HIVES.

SOME GOOD SUGGESTIONS BY FRIEND POPPLETON.

Concluded from last issue.

THE details of the work I will now describe are the ones I use when work is crowding, and there is plenty of available help. Of course, they can be, and are varied at other times; but I find it pays well to use all the help we can at once, finishing up as quickly as possible, then do the general apiary work until hives are nearly full again, when the same is done over again. Myself and assistant usually handle the combs out of doors; shaking off bees, wheeling full combs into the shop, etc., while one good active hand does the uncapping and extracting. For the last two or three years my wife and my assistant's wife have done the extracting in the shop, cleaning off frames, and sorting over combs ready to be taken out into the apiary again. I like the last way the best, as the two can do the work easier and better than one strong hand can do.

For carrying combs to and from the apiary and the shop, I have several boxes made of very thin stuff, with tight cover, so they will exclude robbers, if necessary, and are large enough to hold 12 or 14 frames. These are carried to and from the apiary on an ordinary wheelbarrow.

When ready to commence extracting we go to several of the strongest colonies, taking from each a couple of frames of brood, until I have as many extra ones as I need. Some 20 of these are needed, and, of course, are to be run through the extractor before using. These, together with enough entirely empty combs to make two sets are needed; that is, we have to have two extra sets of combs all the time, one set being extracted from in the shop, and the other being given to the colony that we are working with outdoors.

As soon as every thing is ready for the real work, my assistant brings out of the shop, on a wheelbarrow, one full set of combs, the ones containing brood in one of the carrier-boxes, the empty combs in another. I lay the cover of hive we are to work at on the ground immediately back of us, and on it a box made purposely for this work, same size and shape as a standard hive, but of very thin, light material. We then remove into this box every comb in the hive that contains a sufficient amount of honey to pay for extracting, and then replace them by the set of empty combs, my assistant handing me the combs while I place them, and close up hive, except putting on cover. We then shake and brush the bees off the combs directly in front of the hive, placing the full combs, as fast as cleared of bees, in the empty carrier-boxes on the wheelbarrow. We find it facilitates the work of extracting in the shop, if we put all the combs containing unsealed brood in one box by itself. The assistant then wheels the full combs into the shop, and brings out the other set of empty ones, while I am commencing the work of handling combs in the next hive, and so on all day. The last work we do at night is to go to the colonies we want to commence with in the morning, take away all combs that do not contain brood, and in their place put the two extra sets of brood combs we have left over. The brood combs not taken away from these colonies are taken next morning, thus keeping us all the time supplied with the necessary extra sets of brood combs. If at any time while extracting I have any weak nuclei that need strengthening, I give them a frame of brood each, it being less trouble to do this work then than at other times.

In the shop I use two uncapping-cans, or, rather, boxes, and two extractors. This is not so much to facilitate rapid work, as it is to enable me to keep the honey strictly graded. Some of the combs the first time through them in the season will contain a small amount of dark honey left out of their winter stores, the honey from these being, by the use of the second extractor, kept separate from the rest. This is very important, if one sells in the wholesale market.

The honey, as fast as it is extracted, is run into deep tin cans holding nearly 400 lbs. each, where it is allowed to remain as long as possible, when it is drawn off through molasses-gates near the bottoms of cans, into whatever vessels we may be using for permanent storage, the cans being set up for this purpose high enough to allow our largest-sized barrels to be rolled under them. I always allow the honey to remain in these cans over night anyhow, and as much longer as I can do without the use of the can. This not only saves straining the honey, as all foreign particles rise to the top, where they can be skimmed off, but the thin watery honey, if there is any such, will also rise to the top, and need not be drawn off into other vessels until it has had ample time to become evaporated.

FALL MANAGEMENT

Consists simply in taking away all surplus combs and honey as soon as the honey season entirely closes, usually with us about the 1st of September. I never leave more than 8 combs during the winter in each colony, and less than that number when colonies are not very full and strong. Of course, I always select the best combs in the hive to leave for winter, and find it is quite an advantage to have a chance to select the best out of 15 to 25. Those having the largest amount of sealed, and the least unsealed honey, are the best. All further management during fall and winter is the same as with double-story hives, and need not be detailed here.

FRAMES.

What shape of frame is best adapted for use in single-story hives? The answer to this must, of necessity, be partly theoretical. I prefer and use a frame 12 inches square, one very similar to the American frame; but one of my near neighbors tells me that he has had excellent success with the shallow Langstroth frame, so I do not consider any particular shape of frame an essential feature of single-story hives. The deeper the frame, the more compact is the entire arrangement, and I am satisfied better results can be secured. If I were to change the shape of my frame at all, I think I should retain its present depth, and make it longer, somewhat like the Quinby frame.

BEES.

What kind of bees give the best results in these kind of hives? is a question much more easily and surely answered than one can tell which is the best frame. I get very much the best results from my purest and lightest Italians. The Italians seem to be much more disposed to partially stop brood-rearing, and bend all their energies to honey-gathering, whenever there is a heavy flow of nectar, than any other kind of bees I have tried, and this is a very great advantage.

As I said at the commencement of this article, I have not tried to discuss any of the advantages or disadvantages of the single-story system, as compared with double stories, nor to give theories,—only a plain statement of how I have used single-story hives in my own apiary for several years past. Neither do I think my manner of work is original with me; nearly or quite all of the items of it having been already published in the journals, only not in a connected form. Neither do I want it understood that I think single-story hives are the best for use in all localities, and in the hands of all bee-keepers; but I do think that there are a great many localities and a great many bee-keepers who can be more successful with this form of hive than with double-stories; and if my plain writing will be any help to any one, I shall be satisfied. O. O. POPPLETON.

Williamstown, Iowa, Dec. 10, 1883.

Many thanks, friend P., for your excellent paper, telling the way in which you use single-story hives. The very point you make in making it valuable is, that you have a complete system of working. I know that very much of the labor of extracting may be saved by keeping an extra set of combs, such as you mention, for we once followed the same plan during one season. I was at one time a little inclined to think, however, that the bees seemed to do better on their own combs than on a set of combs belonging to their neighbors. This, however, may have been only a notion of my own. It seemed to me, too, that the bees cared for the brood with better economy where it was put back into the hive in pretty nearly the same relative position it originally occupied; that is, I thought they were a little mixed up for a time when I changed the combs about promiscuously. Where one works for extracted honey exclusively, I have no doubt but that a long single-story hive, and a frame a little deeper than the Langstroth, might be an advantage. Friend Dadant already uses the Quinby frame you allude to, and he is a very successful producer of extracted honey. Our friends will remember that I once adopted into our apiary this form of hive with the Adair frame, and we have some old lithograph drawings now, picturing an apiary and a hive of this description. That was the time when we used to make bee-hives and print GLEANINGS by windmill power.

BEES AND SUNDAY.

WHAT SHALL WE DO WITH THEM DURING SWARMING-TIME?

I HAVE been pleased to have "Bees and Sunday" discussed in GLEANINGS. I very much wish that you would continue the matter, as I, and I presume others, wish to see the matter in all lights before we can decide intelligently as to our duty in the matter. We know that it is right to milk and feed the cows, as their comfort depends upon it. This matter of Sunday labor is very perplexing. Not long since I heard a boy question whether his mother did right to put out her dried fruit on Sunday, and ask why that should be brought in when rain threatened, any more than the hay in the field. A lady who thought herself right in going to the lake on Sunday, blamed others for playing croquet while there, because it was Sunday. Most people would think it right to go after their cattle, if they should start to run away on Sunday. Possibly our lesson gives us a hint on this subject. Those sheep and oxen were valuable property. Yet, "to obey is better." If wrong to hive bees on Sunday, we should like hints to prevent their swarming. I will give one. Do not disturb or handle them for several days before Sunday, if swarming is feared. They often swarm soon after being smoked, and having honey taken.

I think my bees obtained a good deal of honey this fall from the tamaracks, but no perceptible surplus. The trees were plashed with a clear sweet liquid, and the bees worked on them morning and evening. I found no trace of insects. They also obtained honey from the willows, whenever it was damp. The willows were well covered with a cochineal insect. Sometimes you could see a shower of tiny drops. Things under the trees became sticky, as well as the leaves. MISS L. WILLIAMS.

Delavan, Wal. Co., Wis., Nov. 9, 1883.

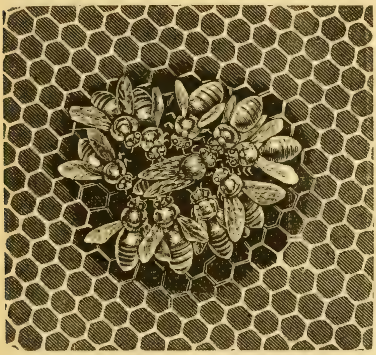
The instances you mention, my good friend, help us to see how difficult it is to lay down positive rules for anybody. I confess I am unable to decide what is right in regard to this matter of caring for stock, running milk-wagons on Sunday, and things of that sort. In almost every case, circumstances would have to be taken into consideration. But we can have this to comfort us: That where we do the very best we know how, according to the dictates of our own conscience, we shall not get very far astray. We know that Jesus went about doing good on Sunday, and also that he taught the people on the Sabbath-day. I do not mean to say in the above, that I am unable to decide what is right and proper for *me* to do in regard to the matter of the observance of the Sabbath. The thing that troubles me is to decide for my neighbors what *they* ought to do, especially when they have not asked me to decide. You know our Savior said, in such cases, "Judge not."

HOW TO FIND THE QUEEN.

HOW MUCH DIFFERENT IS SHE IN LOOKS FROM THE OTHER BEES?

ONE of the juveniles says in this number that he has looked and looked, and can not find a queen, or any thing like one. I had to smile a little while reading his letter; and one reason I smiled was because it reminded me of the time when I could not find a queen. I wanted to get out a black queen so as to get in an Italian, and I hunted the bees over till it was a wonder they did not get out of all patience, and sting right and left. Sadly and sorrowfully I shut up the hive, and mused over the matter a spell, and went and opened it again, and went through the same performance, looking for the queen for a half-hour or more. Finally in despair I told my wife I should just like to see Mr. Quinby or Mr. Langstroth find that queen, and that I would give pretty nearly a five-dollar bill to see them do it. Years have passed since then, and I have got over the difficulty of finding queens, like almost any other difficulty; and for the encouragement of the juveniles, and some of the older "niles" too, I will say that we can get used to almost any thing that anybody else can do, so as to have it at our fingers' ends, as it were.

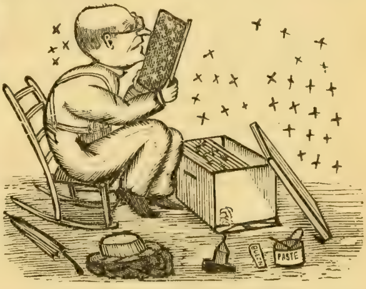
Well, what I started out to say was this: That one great trouble with my early efforts was, I was always expecting the queen to be something very much different from the other bees. Of course, I did not really expect her to be as large as an ox, but just thought, from the pictures in the books, that she would be very large and tall, so as to stand head and shoulders away over the rest; whereas the truth is, unless we look into a hive when the queen is in the height of her laying, she does not look so very much different from the worker-bees, and therefore we are to find her more by the attitude and behavior of the other bees toward her, than from any great difference in looks. In order to show you just exactly what a queen looks like, I have been at some expense in having an engraving made from a photograph of the queen and bees, just as they stand on the comb. Here it is:



THE QUEEN AND HER RETINUE.

She looks rather insignificant, does she not, little friends, compared with queen-bees we see in the advertisements? Nevertheless, I think the picture is a pretty truthful one, both of bees and queen. After your eye has been educated to catch the slightest glimpse of the peculiar action of the workers when near the queen, you will learn to hunt her almost without knowing it. Your *eye* finds her, and I have seen some of the juveniles whose eyes would pounce on a queen (if that is the right expression) quicker than either father or grandfather, even with the aid of their spectacles; and these little chicks do it by noticing the behavior of the bees. Do you not see how they all stand around her, putting out their antennæ, or feelers, very much as you put out your hands and lips to the baby in a caressing sort of way, giving him a kiss on top of his little woolly head, or perhaps his shoe, or plump, fat leg? They seem to love their queen, and like to touch her and caress her. When she walks toward them, those before her stand out of the way just as you would back off for the baby, when he is learning to creep. They will twist around, and sway their bodies in a graceful sort of way, just as you see that bee at her left hand curving his body as she comes around. In fact, these motions have become so familiar to us that I have been in the habit of telling the boys, as soon as they pick up a comb, "There, boys, you will find the queen on that comb, on one side or the other." Now, I had not seen her at all, but I knew pretty well by the way they acted, that they had just been paying their attentions to her. You will notice that the queen is in size almost the same as the bees around her. It is, in fact, the difference in shape, rather than the difference in size. Her wings lie close to her body, as you see, while the others are all spread out, more or less. Her body is also slim and pointed, while others are blunt — more like that of a drone. By the way, we ought to have had a drone in that group, but I did not get him. If any of you can give me a good photograph of a drone, I will pay for all expense and trouble. Perhaps some of our amateur photographers who keep bees might manage it. I suppose the queen we have pictured here was taken out of season, when she was laying very little if any. During the height of the honey season she would lengthen out nearly a half longer. But her wings and body and head would be about the same. You will notice her shoulders are larger, and differently shaped from those of a worker-bee. I often find her, just by getting a glimpse of that part of her body. Now, then, when you look for a queen again, see if you don't succeed better.

In closing up this article in regard to finding queens, we venture to put in a little picture we used some time ago in the Merrybanks stories.



HUNTING FOR THE QUEEN.

You see, our old friend has so much trouble in finding the queen that he has got a label made to paste on her back. Every thing is all fixed, as you see; but, alas! he can not paste on his label, because as usual the queen is nowhere to be found.

SEPARATORS, HIVES, AND CASES.

AND SOME OTHER REMARKS CONCERNING THE PRODUCTION OF COMB HONEY.

FRIEND PORTER, in giving us the following good items from his experience with separators or no separators, adds, in a private letter, the following. I have taken the liberty of putting it in here, because we usually have a desire to know how much of a producer a man is when he writes on questions of so much importance. I am glad to be able to state, that friend Porter is emphatically a successful producer of nice comb honey.

"I have been quite successful, and produce more honey than any other man in Virginia that I know of. Many of my colonies stored 200 lbs. and upwards, each. I think no such results would be possible *here*, with Heddon's system."

FRIEND PORTER'S ARTICLE.

Friend Root:—In view of the reports of W. Z. Hutchinson, Mr. Heddon, and others, showing such success without separators last year, it appears that it must still remain a mooted question. I, too, made repeated trials in 1883. With sections two inches thick and with full-sized starters of foundation, I was invariably obliged to watch, and cut away new combs started on the edges. In some cases this was done four times before the sections were filled out, and it had to be done every day. The result where the sections were completed was very unsatisfactory, for many were bulged out so they could not be crated. Repeated experiments had the same result. Having no narrow sections, I tried some. It is very likely, that with 1½ or 1¾ inch sections, better work will result. But there is another very serious objection. Many object to the plan of tiering up, claiming that the honey is cleaner and better if removed often, and just as soon as it is capped. Tiering up, I judge, is essential to success with Mr. Heddon's system, for his hives and cases are so contracted in width that he has to make room above. Using a ten-frame hive and case to fit, I practice tiering up, and regard it as very important, in the height of the honey season, to afford room for the great number of workers, as it helps to prevent swarming. But we all have less prosperous colonies, which do better work without, and such need to have room made by taking out sections just as fast as they are capped.

Now, the difficulty without separators is here seen in another light. Put in new sections with starters beside those nearly done, and watch the result. I venture to say, that in nine cases out of ten the result will be too irregular to crate. In the discussions so far, this appears to have been left out. It has a very important bearing. I can not but think, and I am not alone in this, that Mr. Heddon is on the wrong track with his narrow hive and narrow rack, and that many who are adopting his plan will regret it. I have practiced for two years the plan of contracting the ten-frame hive to eight, seven, and nine frames of brood at the time of putting on cases of sections by the use of dummies, or thick division-boards at the sides, and thus forcing the bees right up. By doing this we have all the advantages he claims, with the added one of having a ten-frame hive to use for extracting when needed, and, what is of great importance, to hold the bees we want for box honey till we get them into the boxes.

In another respect, Mr. Heddon's system is open to criticism. His cases are too slight a protection against the great and sudden changes of temperature which come upon us, even in May and June. If heat, so essential to comb development, is produced internally to a degree that withstands these cold nights and days we often have, it must be at a great expense of food—fuel—with only a ⅜-inch side, which, tiered up three cases high, would present a surface of more than five square feet of that thin material with four plain joints between the life within and the cold without! Here in this temperate climate where we winter always on summer stands, I find it advantageous to confine the heat, and save it by covering the case with a thick quilt till the nights get warm, though my cases are inside of the second story. Lightness, and ease in handling, may be obtained at too great a sacrifice of other essentials.

To obtain the largest amount of comb honey, we must have at the right time a powerful force of bees. To prevent any "slip between the cup and the lip" by natural swarming before they get to work in boxes, we often do need room below of ten frames, and then to use the extractor. True, 8 frames of solid brood in all stages of development is a strong base; but more room for work and for food is often desirable. Then it is so easy to contract space with the *dummy* when desired. Besides, we have a broader surface on top for storage—a most desirable thing. J. W. PORTER.

Charlottesville, Va.

THE BEE-KEEPER AT HOME.

SEE PICTURE ON PAGE 739, DEC. 1.

I RECEIVED GLEANINGS to-day, forwarded from Fremont, and was somewhat surprised to see the trouble and expense you have been to engraving my home and apiary. You are right in your surmises in regard to pine sidewalks in Michigan. Mine has not stones under the stringers, friend R., but it is laid on a hard beaten path; and although it has been down six years, you see it is still straight and level. Yes, I, too, think a picket fence nice, and in our locality we are obliged to have a fence, as cattle run the roads; but even if they did not, I think I should prefer a nice tidy fence of some kind.

I am very sorry the trees in front are not basswoods, as they were planted one year before I commenced bee-keeping; but along the north fence is a row that I have planted since; and I am proud to say, that when I bought the ground, seven years ago, there was no fence, sidewalk, trees, or house; and I have made the improvements (aside from what God has done) with my own hands, and I feel like saying to all bee-keepers, "Go thou and do likewise." The latch-string is always out; and if you or any other bee-keeper should happen along at any meal-time, I will guarantee that the meal will be palatable. The baby is a girl, and her name is Lulu. I wish you could see her, and know her father. You could not borrow the baby, but you could hold her a while, and I know she would have a smile for you, as she does for every one; and she, with her papa and mamma, have done much to cheer me in my sadness.

Oh, but we did miss you so much at the convention at Flint! We had a delightful time, so many topics of interest were discussed, and the dear old father Langstroth made the place seem almost sacred; and how kind in friend Jones to get those nice photos for us all, and so cheap! and friend Cook, Hutchinson, and others did much to make the meeting the success it was. GEO. E. HILTON.

Montgomery, Hillsdale Co., Mich., Dec. 8, 1883.

SOMETHING NEW IN THE WAY OF COMB HONEY.

ALSO SOMETHING NEW TO TAKE TO OUR COUNTY FAIR.

I PRESUME most of our readers have been astonished at the ingenuity which has been displayed in the past year or two in making bees build honey just where their owner wanted them to build it. Not only are stars and hearts and crosses and circles exhibited in beautiful white comb honey, but something has already been done in the way of letters and figures. And now comes Geo. W. Lawson, of Centreville, Montgomery Co., O., with an order as follows:

I want eleven sections made, similar to your fancy sections, only representing a letter instead of stars. The eleven letters and figures are

OUR FAIR,

1884.

Each section is to have one of those letters or figures cut out as you think best. Of course, they are to be sent with the other goods, and you to make your charge, whatever is right, and let me know.

GEO. W. LAWSON.

Centreville, Ohio, Dec. 13, 1883.

After reading over the above part of the letter I was just about to tell our friend it could not be done; but Mr. Gray, who sat by, made the remark, "Why, yes, we can do it. You let me have that part of the order." It was given him, and in a day or two he called me to come and look at his fancy sections. Sure enough, he had got it; but in order to make a sure thing of it he had made the sections large enough so that only two would go into an L. frame. To make them, he first made light square frames of about such stuff as we make our wide frames out of. Two of these just slipped into one wide frame. Now to make the letters, corner-pieces and various-shaped little blocks were bradded into these frames so as to leave just the space to make a letter. These blocks and corner-pieces were made of ⅞-stuff. First one side was finished, then a sheet of fdn. laid on, and the other half put on.

As many of our friends will want to know what these big sections filled with fdn. ready for the bees will cost, I will state that we can make them for 25 cts. each letter or figure, and you can have any letter or figure you choose. I would not advise them much smaller than the size we have given, in order to get them so the bees will work in them readily. Those we have made give a space of about 3 inches in width for the heavy part of the letter.

A LETTER FROM CHINA.

AND SOMETHING ABOUT TOBACCO, AS WELL AS CHINESE BEE-KEEPING.

FRIEND ROOT:—I have enjoyed the visits of your journal for several years. True, I can d nothing at bee-raising. We (myself, wife, and daughter) spend our winter months in the interior of this province at a place called Shao-wu, where we have a station, and a small but growing church. The spring and autumn we spend here at Foochow, while two of the hottest months are spent at the seaside. Under such circumstances we could not have bees or any thing else that needs looking after regularly. But I sometimes find it a pleasant recreation to read over the various experiences of bee-raisers. It is all entirely different from the things that must usually occupy my mind.

I see but rarely any bees in my travels; and from what little I have seen, I suspect that Chinese bee culture is of the rudest kind. There is generally a little honey in the comb to be had in the autumn. The combs are old and new, good and bad, all together. If we get the first pick at it, when the man comes around peddling it, we can select out some pretty fair pieces. I send herewith a sketch of a Chinese bee-hive. It is, so far as I know, a rude box with a rounded top, suspended by ropes against the side of the house under the eaves, which in this country generally project two and one-half to three or even four feet. The one peculiarity about all that I have seen is, that instead of one long narrow slit at the bottom of the hive, there is a number of round holes about half an inch wide in the front face of hive. The other day I saw an apiary of four stands, where the hives were simply tea-chests. Each one had thirty or forty of these holes distributed pretty evenly over the whole front side of the hive, from top to bottom.

TOBACCO AND OPIUM.

But if the Chinese lack honey, they have no lack of tobacco. Everybody smokes. If the Chinese would only take to Christianity as they have taken to tobacco, the nation would quickly evangelize itself. But opium, not Christianity, follows tobacco. First they became a nation of tea-drinkers, a small thing, seemingly; but it prepared the way for tobacco, and this in turn has prepared the way for opium. God grant that it may not be the same in America; but if the tobacco does not go, the opium will come.

The Chinese method of smoking is peculiar. Instead of filling a good-sized pipe, and puffing away for several minutes, a pinch of tobacco is put into the bowl of a small pipe, and lighted, and one or two full inhalations taken. Then this is knocked out, and another pinch put in, and so on, very leisurely, until the smoker is satisfied. Of course, this requires some kind of tinder that will burn or smoulder a long time. The thing most commonly used is a tight roll of coarse paper, about the size of a slate-pencil. The paper is made of bamboo, and the charred end of the roller stick will catch fire from a spark, like punk. A sharp, quick puff of breath will make it blaze. A substitute for this paper, roll, or stick, in the country, is the stalk of the hemp. After the bark has been stripped off, the stalks are immersed in a ditch or stream for about three weeks, and then bleached in the sun. The result is a stick that has much the nature of punk. Here is something, now, that may be of value to bee-raisers when their supply of punk gives out. I presume there are other vegetable stalks besides hemp that would yield the same result under like treatment.

I once saw some Chinamen attempting to make a swarm of bees settle, and they made a big racket with gongs, etc., just as we used to do in America. In fact, the Chinese have such faith in a loud racket for remedying all manner of troubles that they may have originated the practice. They attribute all manner of misfortunes to evil spirits, and make outlandish noises to frighten them away.

I once asked a Chinese scholar what was the difference between the teachings of Christ and Confucius. He seemed to wonder a little at the question, and replied: "Why, Confucius teaches how to be an officer, or person of rank. Christ teaches us how to be men." This answer indicates pretty well the difference between Christ and all other founders of religious systems. They all know of no other way of overcoming the evil of the human heart, except by processes of study, meditation, and asceticism, utterly beyond the reach of ordinary human beings. Christ throws aside all such legal devices as powerless to save any one, and proffers to all the atonement of his death, and the renewing of the Holy Spirit, on condition of a simple, childlike faith that is within the capacity of every rational human being. J. E. WALKER.

Foochow, China, Oct. 19, 1883.

Many thanks for your kind letter, friend W. I should think by the drawing you send, that the Chinese have made some progress in bee-hives, in advance of the surrounding nations. A tea-chest of convenient size might be arranged without much trouble, so as to make a pretty fair chaff hive, and it seems to me it would be quite a little advance over the rude clay cylinders. The idea of suspending them under the eaves, however, seems to me is not only novel, but it would be decidedly inconvenient in handling bees as we handle them. It is a sad, sad thing, friend W., to see what a fearful amount of ruin comes from tobacco and opium. Why can not the people of our own country, as well as China, be taught that true happiness never comes in the way of gratifying tastes and passions with things like these? It is only Jesus, and he alone, that can take away the sin of the world.

REVERSIBLE FRAMES.

THEIR ADVANTAGES; AND SOME OTHER MATTERS EQUALLY IMPORTANT.

FRIEND ROOT.—For the past year I have, from time to time, given a deal of thought to the subject of reversible frames; namely, their advantages, and especially the best possible plan or device for reversing them. The advantages of reversible frames are many, but I will not now enumerate them all. Suffice it to say, that for securing large yields of comb honey it is very desirable to have the boxes very close to the brood, bees being oftentimes very unwilling to pass over an inch or more of *sealed* honey in order to reach the surplus-chamber. This unwillingness, as indicated, especially applies to *pure* Italians. This fact led me, many years ago, to uncap the cells of honey in such a way as to force the bees to remove the honey therefrom, in order that they might repair the damage thereto. As a rule, if the bees, at the time of uncapping, are working in the boxes, and have plenty of empty comb therein, they will transfer more or less of the honey thus uncapped to the surplus-honey receptacles, and the queen will then occupy the vacated cells with eggs. This plan will secure brood, generally, close up to the top piece of the brood-frame. After a time I found that the very best device for destroying the caps of the cells of honey is a table-fork — say with 3 or 4 tines. With this I simply *scratch* the caps, which is quickly done, and this mutilates them, as well as the top walls of the cells, and to such an extent that the bees *must* take out the honey before they can repair the damage done. Uncapping, or scarifying, the sealed honey, for the purpose given, was an idea that originated with me, and was new to friend Langstroth at the time I first called his attention thereto. If you will examine Prof. Cook's new work, Manual of the Apiary, page 189, you will there find that he refers incidentally to this important discovery in the practical management of bees, though he does not seem to catch the full import of its value.

The idea of using a table-fork so as to mutilate the comb, more than by simply shaving off the caps of the cells with a knife, was also original with me, and the idea or plan has never, to my knowledge, been referred to in any shape, in any publication up to this date.

There are *hints* enough given now, in the foregoing, to enable any one to induce bees, whether black or yellow, to carry *all* the honey from the brood-chamber to the top story. Two or three manipulations, at the proper time, will *force* the honey up stairs.

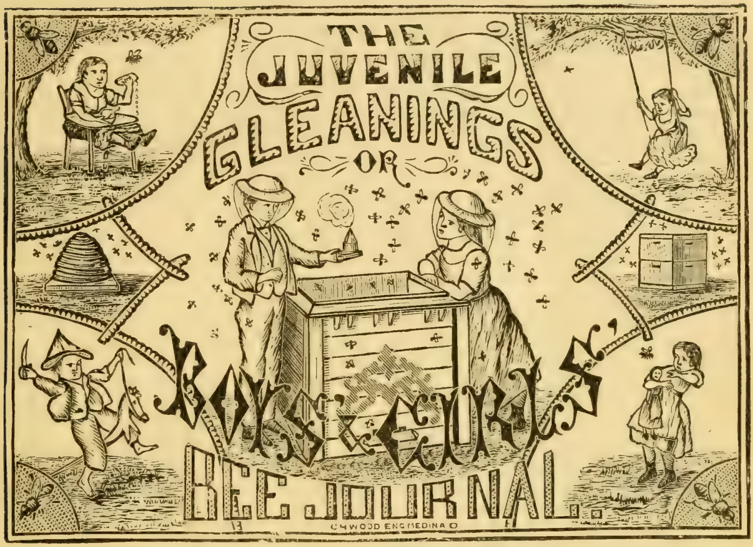
And now I return to the idea of *reversing* the brood-frames for securing the same result, and to save the labor of scarifying the cells of honey. The reversing puts the sealed honey, in case there be any, at the bottom of the hive, and in such an *unnatural* position that the bees will uncap it themselves, and carry it above the brood; and the brood being now close up to the top of the frame, the bees are again *forced* to take it up stairs to the surplus-honey chamber.

Let me refer to one more advantage to be secured in reversing the frames, and I will then close. I refer now to the fact, that if the frames be reversed during the drawing-out of fdn., that the comb and work at the bottom (now top) of the frame will be as perfect as it always is at the top of a frame not reversible. In other words, the frame will be full from top to bottom of a complete and solid comb, which, when built on fdn. in wired frames (and no other should be used), will stand shipping by rail or otherwise, *any distance*, and will also keep its proper place while extracting, or during any other necessary manipulation.

So much space has now been used up in discussing some of the *advantages* of reversible frames, that I will reserve what I may have to say upon the best possible plan or device for reversing them, for some future occasion. M. M. BALDRIDGE.

St. Charles, Ill., Jan., 1884.

Very good, friend B. And now, then, for the best reversing device. Quite a number of very ingenious ones are already submitted for my approval.



He that is faithful in that which is least, is faithful also in much.—LUKE 16: 10.

MYSELF AND MY NEIGHBORS.

It is more blessed to give than to receive.—ACTS 20: 35.

WOULD it not be funny, little friends, if we did not have any neighbors? So far as I remember, the only person of whom we have any record, who lived very long without neighbors, was Robinson Crusoe—or really Alexander Selkirk. I suppose you know that the book called Robinson Crusoe is, a great part of it, fiction, although it is founded on fact. This Mr. Selkirk did live on the island of Juan Fernandez some three or four years, and he had no neighbors, unless we should call his cat and dog and parrot, and such animals as he domesticated, neighbors. As to whether he really had a man Friday or not, I am unable to say; but very likely he made friends with some of the natives as soon as they happened to touch the shores of his island. Poor Robinson Crusoe! for such I suppose we shall have to call him, how he must have suffered during those years for want of human companionship! Whenever I get into an uncharitable mood, and get to thinking I should like to live for a while without neighbors, it always does me good to think of Robinson Crusoe. I wonder if any of you have ever thought, children, that it would be pleasant to have every thing all to yourselves. You see, if you were on an island you would not have to divide with anybody; you could have all there was to eat, and all there was nice to wear. You could have all the room without anybody pushing you, or crowding you, or stepping on your toes; and there would not be any need of quarreling, because there would not be anybody to quarrel with. You could not be selfish very well, unless you showed your selfishness toward the domestic animals. In fact, a great part of the wickedness that is now open to us would be cut off. Just think how easy it would be to love God, and do right, if there were no one around to tempt you to do wrong. In fact, what could people do that is wrong, if they had not any neighbors? They could not steal, they could not fight, could not tell lies; and therefore it would be an easy matter to be a pretty good Christian, would it not? It is true, one might grumble and complain. It wouldn't be much use, though, if there were nobody there to hear it. One might be intemperate, if there were any thing on the island to use intemperately, and one might also take God's name in vain, although it makes me sad to think that any one who is alone with God, as it were, should ever do such a thing. I wonder if profane people ever swear when they are alone with themselves.

I have given you this little picture, children, that you may think for a moment what it would be to be obliged to live entirely without neighbors. You may sometimes think it is hard to get along *with* such neighbors as God has given you; but I assure you it would be a thousand times harder to try to live without any neighbors at all. I presume Robinson Crusoe would have joyfully welcomed the meanest man that ever lived, rather than to be shut up entirely alone by himself. I have sometimes thought that selfishness is the worst sin, or, rather, the foundation of almost all other sins. There are very few sins that do not have their origin in selfishness—that is, our wrong doings come principally from loving ourselves more than we love our neighbors—anxiety to possess every good thing, to the exclusion of other people. How plainly we see it stick out all through the world! Even little children are sometimes greedy—they will quarrel over an apple, a bit of pie, or a cake, when there is an abundance of all of them; and people of an older growth often do just as foolishly. They are backward about sharing with their neighbors, and reluctantly divide, or consider the good of others, when at the same time they would never be happy at all if they had not somebody near them to divide with. Jesus said, "It is more blessed to give than to receive;" and in this little text there is a wonderfully great and beautiful truth. He did not mean, of course, that we should give away every thing we had earned by hard labor, without an equivalent, but he did mean we should look out about being greedy and unfair, and that we should remember that unhappiness always comes from giving way to feelings of selfishness. I asked my wife the other day how soon babies begin to act selfishly. She thought they were not selfish at all, naturally.

"Well," said I, "how soon do they commence being generous and liberal? Huber is now about seven months old, and he has learned to smack his lips over a good many delicacies, and to show in other ways that he keenly enjoys them. Now, has he ever shown any disposition to divide or share with others the good things he enjoys?"

Of course, we all became interested in the matter, and tried to see if we could make him exhibit any traits of a disposition in his little mind to love his neighbor as himself. I succeeded a little with one experiment, and I hope the little friends will not laugh if I do tell of such a trifle. Huber has a lot of playthings, as you know, and, like other babies, he gets tired of them, and wants something new. When he first gets up in the morning he will take his basket of toys, and amuse himself quite a while with them, but eventually he gets wearied of the things he has seen from day to day and from week to week, and, like the rest of us, wants something different. By the way, I want to tell you that the toy that seems to hold its attraction the longest is one of his little shoes that he has outgrown. He will chew this, and wet it all over with his little drooling lips, more than almost any thing else. Now to my experiment. One day I gave him my large nickel-plated door-key, and he was much delighted with it. Of course, he pushed the bow of it into his little juicy mouth, the first thing. Then I put out my hand for it and said, "Papa have it?" He at once pulled it out of his mouth with the bow of the key webbed over with a sort of soap-bubble (you know how it would look), and instantly pushed it into my mouth. My experiment succeeded, and we had a big laugh. He evidently derived great satisfaction by putting the pretty plaything into his own mouth, and, in the generosity of his little heart, he acted upon the impulse of the happy thought to let his papa enjoy it in the same way too.

Now, children, just a word in regard to selfishness. I am inclined to think it is a fact, that babies and children of all ages are much more liable to take naturally to selfishness and other sins, than they are to be generous and fair and kind. What do you suppose a baby would be, brought up on an island, like Robinson Crusoe—that is, suppose the thing were possible? Poor little Huber could hardly live a few brief hours without neighbors, or his own natural protectors, if you choose, to care for him, and watch that he didn't tip over and bump his little head, and such like accidents. When he gets to be several years old he might possibly live on an island; but what sort of a boy would he be? We are dependent upon friends and human help, not only for the food that we eat, but for the Bread that cometh down from heaven as well, and I do not know how we should ever know God, or love him, or even know the sinfulness of selfishness, were it not for the kind friends God has so wisely placed here to guard us from going into the broad road that leads to destruction. Do we not, indeed, owe a great debt to our neighbors, and to God for having given us neighbors, even such as they are?

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THE DISCOVERY OF SILK.

COMPILED AND WRITTEN BY MISS NELLIE LINCOLN ROSSITER.

Continued.

SUBSEQUENTLY, silk became an article of exportation. From China, it went into all the other countries of Asia, and afterward to Europe. The traders of Serica journeyed, at first, with the silken stuffs over the whole breadth of Asia. Two hundred and forty three days were usually spent by the caravans in going from the coasts of China to those of Syria. The prices they obtained far exceeded the expenses incurred; and thus the silken stuffs were found in every mart; but principally in Nisibis, in Mesopotamia, and among the most active traders in the world, at that epoch, the Phœnicians, who at length carried them to the east of Europe.

The Greeks derived their first knowledge of silk from the military expeditions of Alexander, into Persia and India; and Aristotle called to it the attention of his countrymen as early as 350 years before Christ. I have already related by what means the Romans obtained their silks. At first, on account of the high price of the silk, these stuffs had but the chains of silk, and the filling either of linen or cotton, or vice-versa, and may, therefore, be called half-silk stuffs. Roman writers gave them distinct names. But a general outcry soon arose, even against the half-silk stuffs, under the pretense that they were too expensive and too womanish. Under the Emperor Tiberius, 17 years after Christ, Haterius and Fronto declared themselves strongly on the subject; and it was ordered, that "no silk dress should henceforth degrade a Roman citizen." Even under Marcus Aurelius, in the year 173, such attire was worn only by ladies of the highest rank. The Syrian voluptuary, Heliogabalus, was the first who wore a dress wholly composed of silk, in the year 218; but in 270, Aurelianus denied to his wife Severa such a dress colored with purple. "Let us not," said he, "exchange gold for spiders' web;" and, indeed, at that epoch silk was of the same value with gold, weight for weight.

The silk-trade increased, nevertheless, more and more in India, Persia, and Arabia; principally from the progress of luxury in eastern Europe, and the consequently greater demand for silk fabrics. No law could counteract such a propensity; and it was accordingly disregarded entirely in the eastern empire, under the reign of Justinian I., from 527 to 565. Through the intercession of the ill-advised Empress Theodora, the wife of that Emperor, a monopoly of the silk-trade was granted to a broker by the name of Peter Bersames, who became afterward chief of the imperial body-guard. At this time, not only silk stuffs but raw silk was imported from China, through Persia, and chiefly by way of Samarcanda and Bokhara, into the Phœnician cities of Tyre and Berytus, where silk was manufactured, and from whence it was afterward conveyed into foreign countries. The monopoly granted to Bersames tended, however, to diminish greatly in those cities the profits of the silk manufacturers and traders. The greater number of the former emigrated into Persia, and there opened work shops.

WHY BEES LEAVE THEIR HIVES IN WINTER.

ANSWERED BY A JUVENILE.

My uncle has had bees two summers, but last summer they swarmed so much he did not get much honey. The first swarm made 50 lbs. of surplus of comb honey, and made enough to winter on. Last winter so many bees flew out of the hive during cold weather, my uncle could not think what was the cause; so he searched in the A B C book, but that didn't tell him, so he had to find out by experience. At last he found out that they were too warmly packed in chaff; so he gave them more upward ventilation. I think you ought to mention this in your A B C book. It may save many a bee, and much hard study. After that they stayed very quiet. I attend school, and in summer I attend Sabbath-school. My uncle, A. H. Baum, is superintendent of the school. If this is worth a book, please send me Rescued from Egypt

CORA BAUM, age 14.

Ashland, Ohio, Dec. 24, 1883.

To be sure, your article is worth a book, Cora; in fact, it touches upon a point that has been almost overlooked; and while I am not prepared just now to say you are right, the idea certainly seems quite probable. We have had abundant proof that bees often die because the hives were made too close, and do not allow sufficient air. Now, when they begin to feel they are suffering from want of air, it would be nothing strange if they should leave the cluster and crawl out or fly out, even when the weather is such as to make it certain death for them to do so. We know that sick bees often take themselves out of the way to die alone, where they may not communicate the disease to the rest of the colony. If sickness, induced by want of air, should lead them to do this, we are right in your line of thought exactly — or, perhaps, your uncle's line of thought. You know I have told you during this past fall to leave the entrances to chaff hives open the full width in winter. I am pretty well satisfied, also, that the packing over the bees must not be too solid. It needs to be loose, like chaff in a very open and porous sack, like burlap or very coarse bagging; and besides this, there must be ventilating-holes of pretty good size in the cover — I should say, at least a hole on opposite sides, 1½ inches in diameter. This hole, of course, would better be covered with coarse wire cloth. It should be in such a place that it can not be stopped up by snow or ice. Forest-leaves have been suggested in place of chaff, because they are still more porous, and may be we shall have to use some such thing in place of chaff, especially where we have long protracted *cold* spells. It seems a little queer, does it not, friend Cora, that the bees need more openings during severe cold weather than they do when it is only a little cold, and cold for only a little while?

HOW THEY MANAGE BEES ON MOUNT HYMETTUS.

A COMMUNICATION TAKEN BY ONE OF OUR JUVENILES FROM A BOOK PUBLISHED IN 1838.

We have 34 hives of bees. We have a book in which there is an article on bees. It was printed in 1838, in England — "Management of Bees on Mount Hymettus, in Greece, by G. Weeler, Esq." The hives in which they keep their bees are made of willow or osiers, fastened like our common dust-baskets, wide at the top and narrow at the bottom, or plastered with clay or loam within and without. They are set the wide end upward, the tops being covered with board; flat sticks are also covered with clay at top, and to secure them from the weather they cover them with a tuft of straw as we do.

Along each of these sticks the bees fasten their combs, so that a comb may be taken out whole without the least bruising, and with the greatest ease imaginable. To increase them in spring time — that is, in March or April, until the beginning of May, they divide them, just separating the sticks on which the combs and bees are fastened from one another, with a knife, so taking them into another basket in the same order that they were taken out until they have equally divided them. After this, when they are both again accommodated with sticks and plaster, they set in the new basket in the place of the odd one, and the odd one in a new place, and all this they do in the middle of the day, at such a time as the greatest part of the bees are abroad, who, at their coming home, without much difficulty divide themselves equally. This device hinders them from swarming and flying away.

In August they take out their honey, which they do in the daytime also, while they are abroad, the bees being thereby, they say, disturbed least, at which time they take out the comb laden with honey as before; that is, beginning at each outside, and so taking away until they have lifted out such a quantity of comb in the middle as they judge will be sufficient to maintain the bees in winter, sweeping those bees that are on the combs they take out, into a basket again, and again covering it with new sticks and plaster. It has been doubted whether in England the like quantity of honey may be taken without endangering a scarcity in winter, the bees probably not collecting so much; let less, therefore, be taken away. By these means, it has been said, the great increase and multiplying of the stock would soon equal, and far exceed the little profit we make by destroying them. ROSEY E. SMITH.

New Hamburg, Ont., Can., Jan. 1, 1884.

My little friend Rosey, you have given us quite an important communication. I have several times looked musingly at our stout willow baskets, and wondered why a bee-hive could not be made of them that would be strong and serviceable, and yet, perhaps, winter bees better than any wooden hive ever made. A common basket, wide at the top and small at the bottom, might do pretty well. Of course, the combs would not be readily interchangeable, because those at the outside would be small, and those in the center large. We have figured such hives before, and discussed them in our pages. A straw cap would make it equivalent to a straw hive. Our readers should bear in mind that this kind of movable combs was made and used before Mr. Langstroth began with his; and although they are rude, with them one might, after a fashion, perform almost all the operations of modern bee culture.

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A ROUSING REPORT FROM ONE OF THE JUVENILES.

WHAT 30 SUGAR-FED COLONIES DID IN 1883.

MA has 66 colonies of bees. We extracted 7500 lbs. of honey. I mean to be a bee-keeper. I should like to spend a year with you, to learn the best way to work bees, when I get my schooling done, if we all live. We had only 30 colonies last spring. We winter our bees on granulated-sugar syrup. We take GLEANINGS. Ma would not like to be without it. She saw you at Toronto.

JOHN W. STENNETT, age 10.

St. Mary's, Ont., Dec. 28, 1883.

Why, friend John, your report is a most wonderful one indeed. Over 200 lbs. to the colony, spring count, and that from an apiary of over 30 hives! When I looked at your figures I instinctively turned to the bottom of the letter, to see where it was that they had such wonderful success. When I saw it was in Canada, I did not wonder so much. It gives me a real thrill of pleasure to hear of such magnificent results, coming first from one quarter and then from another. It seems to me to indicate that God wishes to tell us that he does not want to be partial, but that great results may be expected in almost any locality, if you are bright and enterprising, and ready to take blessings when they come. May be the sugar-syrup feed had nothing to do with it; but I am inclined to think those 30 colonies must have been remarkably strong and healthy.

JUVENILES FOR DOING HOUSEWORK.

ALSO SOMETHING ABOUT A BEAUTIFUL LAKE AWAY UP ON TOP OF THE MOUNTAINS.

DEAR CHILDREN, have you noticed that, in nearly all reports from the juveniles, it is only in letters from California and Texas that *boys* say they help mamma wash dishes, and cook? Well, if you notice you will find it as I have said. Now, the reason is, that we here in California (and I suppose it is the same in Texas) can not get help, so we have our boys help us; and since I have been here I have often wanted to urge eastern mothers to teach their boys to do housework. Fifteen years ago, except in large cities, there were hardly any women and children here, and you would feel sorry if you had seen the way the men lived. You see, almost none of them had ever had to do a mite of housework, so of course they did not know how to do it, and most of them never really did know how; for with their outdoor work and poorly done housework they had no time to learn.

Some boys might say, "I won't learn, for I am never going where I shall have to do it." Don't be too sure. Learn; and even if you don't go into new countries you will find it very handy when mamma or wife is sick or "so tired." And then, again, that is the way to learn to be neat and handy, if you are in any kind of business, especially the bee business. My! how I have laughed to see some folks take care of honey! It would be all over the floor and hives, and the person's clothes, till it would take longer to clean up than it did to do the work. Now, if such a person had been taught to do housework when he was a boy, he would not have made so much unnecessary work.

In my last letter I told you about the hot spring of Las Cruces. Now I will tell you of a lake 3000 feet above the sea. Our little village is about 1000 feet, so that is 2000 feet above us. At the upper end of this valley, seemingly right across the end, but 10 miles away, is a long ridge of mountains, and near the top of one of the peaks this lake — Zaca Lake it is called — is located. It covers about 100 acres, and is so clear that one can see away down to the bottom 15, 20, and in some places 30 feet deep. There is no knowing what keeps the lake going, away up that tall mountain; but quite a good-sized creek runs from it. Many people go to see it and bathe in its cool clear depths. When we go we have to take horses that will let us ride upon their backs; for when we get to the mountain we unhitch and unharness the horses, put on the saddles (if we were thoughtful enough to bring them), and ride up three-fourths of a mile. But every one is charmed and thinks that the trouble to get there is fully compensated by the beautiful sight of lake and pines that surround it. MRS. K. HILTON.

Los Alamos, Cal., Nov. 24, 1883.

Mrs. H., I am glad you have taken up this subject of teaching boys to be neat and handy about the house. I do think it is really a fact, that a man or boy can hardly expect to succeed in bee culture until he learns neatness and order. One great reason why I employ girls and women in our office is because that, with the many different things we have to handle, it would be impossible to get along with anybody as slovenly as many boys and men are. Occasionally we have a little experience with some young men who have never been taught neatness and order; and although they do not seem to know it, I have sometimes thought them to be almost as badly off as if they were crippled in the hands or legs or both. It has sometimes seemed to me as though the great crying thing in the present generation was for neatness, system, cleanliness, and order. In many kinds of business, disorder is utter ruin. In fact, just now while scores are begging for something to do, I am in urgent need, in many places, of somebody who knows how to work, without doing more harm than good. Disorderly and slovenly habits make many good people almost useless for the great business of life. A girl who knows how to cook and keep house will almost always make good help in the office or factory. But boys, by some means, seem to grow up suffering, and perhaps unhappy, through a great part of their lives, because they have never had education of this kind which their sisters almost invariably have.—Thank you, Mrs. H., also, for your vivid description of that wonderful lake.

JUVENILE DEPARTMENT

Every girl or boy, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock, six different books, as follows: Silver Keys, Sheer Off, The Giant Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

> "A chiel's amang ye, takin' notes;
> An' faith, he'll prent it."

WELL, we have a good lot of juvenile letters this month, little friends, and they are good letters too, as I think you will say after reading them. Many of them discuss some of the most important points in bee culture. The letters are all fresh too. I think there is not an old one among them, and I have tried to get all your letters in, so we could have all fresh ones next month. And with this idea in mind I think I will stop right here; for the more I have to say, the less room will there be for your letters—don't you see? But even if I do talk short this time, remember I am Uncle Amos, all the same. Oh! just wait. Only a few minutes ago Huber was over here, and had a real fine time being drawn around the counters in the store, in his little wagon. When he can "go see papa," and "ride in waggie," then he is happy. You see, he can ride and look at the tinware and all the other things, and have the children chasing all around him besides. Who wouldn't enjoy it?

THE LITTLE BUSY BEE.

Tune—"Tramp, tramp, tramp, the boys are marching."

Oh, the little busy bee
In the garden you may see,
Gathering honey thro' the golden summer hours;
He is cheery and he's gay,
And intent he works away,
Storing treasures from the sweetly blooming flowers.

CHORUS FOR EACH VERSE.

Working, working in the sunbeams,
Gathering honey all the day,
Oh, the little busy bee
Is the type for you and me,
For the winter he provides in sunny May.

When the lark springs from the corn
In the early summer morn,
And ascends on wings of gladness to the sky,
Oh, the little busy bee,
To his labor goeth he;
You may hear his merry song as he goes by.

In the sultry glare of noon,
Still he sings his merry tune
As he ranges through the depth of some bright bell;
If you try to shut him in,
You will hear a pretty din,
And may chance to get an angry blow as well.

When the slowly sinking sun
Tells that day is nearly done,
Then the little bee, no more inclined to roam
With his laden bag and thighs,
Like an earnest worker hies
To the lowly straw-built cot where is his home.

Caro, Mich. —W. E. BUMP.

THE BEES.

The bees, the bees, they work away,
I believe they work by night and day,
As to their hives they flying come,
With golden honey on their tongue.

The bees are wise, 'tis very true,
And even wiser than I or you;
As on the clover they do hum,
It seems as if 'twere only fun.

They work on clover white and red;
They carry wax upon their leg;
And as they fly upon their wing,
If you hurt them they will sting.

And I have very often thought
How God has them so wisely taught
To build their combs so very neat,
And within the honey is so sweet.

Middleton, Pa. HARRISON S. BRINSER.

FROM 7 TO 22, AND 600 LBS. OF COMB HONEY.

My pa had 7 stands of bees in the spring. He now has 22, and has taken 500 lbs. of comb honey in one-pound sections. BESSIE MORRISON.

Bates, Ill., Dec. 1, 1883.

A SMALL LETTER FROM A SMALL BOY.

I am a little boy 8 years old. My pa has six swarms of bees, three cows, and one calf, and one horse. I would like Silver Keys. WILLIE PEASE.

Kingsville, Ohio, Dec., 1883.

A PRINTED LETTER FROM ONE OF THE 6-YEAR-OLD BEE-FRIENDS.

Pa said he would help me write a letter, so I could get a book. Pa takes GLEANINGS; he has 35 swarms, and I have one. I like white clover honey best, as it does not taste as strong as some. Pa has extracted once from my swarm. I will now close. From your little friend,— CLAUDIE SMITH, age 6.

South Lyon, Mich.

BLOSSOM, TOM, SEYMORE, AND PETER.

We have no bees. I have a little brother and a little sister. I have a cow named Blossom, and a kitten named Tom. We have two horses, named Seymore and Peter respectively.

MISSOURI C. SHIELDS, age 9.

Pond, St. Louis Co., Mo., Dec. 2, 1883.

THE SWARM OF BEES THAT EDGAR FOUND ON A HILL OF CORN.

I have one colony of bees, and pa has nine. I found mine on a hill of corn, when I was carrying water to my uncle. I had only a box-hive to put them in, but pa gave me a Simplicity, and I am going to transfer them in the spring. EDGAR YOCOM, age 9.

Williamsville, Sangamon Co., Ill., Dec. 27, 1883.

I suppose, Edgar, you mean you are going to transfer them in the spring if they live. But for that matter, you might transfer the combs, even if they do not live, and then you will have so much toward a colony in the spring, and a hive full of combs is certainly half of it.

HELEN'S REPORT.

Pa has 9 colonies of bees, all in box hives; he is going to transfer them in the spring. He sent for 50 Simplicity hives and 100 metal-cornered frames. He has about 20 frames made. He could not get them together very well. He does not like them as well as all-wood frames. Pa and Uncle John tore a box hive to pieces last summer. After they smoked the bees into another hive, they cut all the honey out of the hive and ma strained the honey. I like to work with the bees. I am going to send my letter with brother Edgar's. If you think this is worth a book, please send Silver Keys.

HELEN YOCOM, age 11.

Williamsville, Sangamon Co., Ill., Dec. 27, 1883.

LUCY, AND HER GRANDMA AND THE BEES.

Grandpa keeps bees; he has 13 colonies in box hives. He talks of transferring them to the Langstroth hive, as he has become interested by reading GLEANINGS. Grandpa feeds his bees sugar, and most of the honey. Grandma watches the bees, so when they swarm we can get them. Grandpa says he can go out into the cow-yard, yell as loud as he pleases, and she can't hear; but let the bees swarm, and she is the first to hear them.

Kizer's, Pa., Dec., 1883. LUCY ANN HOUSE.

Lucy, there is a text in the Bible which says, "Where your treasure is, there will your heart be also;" and almost anybody can hear better about something in which he is deeply interested. I presume that is why your grandmother hears better about the bees; she is thinking about them, and her mind is on them.

250 GALLONS OF ORANGE-BLOSSOM HONEY.

It is now December. I do not suppose you hear the merry sound of the little bee as we do. They are as busy now on the wing as in the month of May, but not as profitable, as they fly from hive to hive trying to force an entrance; and if they find a weak colony, they go in and take the honey. We have flowers in the yard, and a few wild ones; but it seems that they have not got the fragrance, or honey, as in the summer. Our orange-trees are full of bright oranges, and in about two months they will be white with bloom; then the little bees will fly for profit, for the blossoms afford a great deal of honey, as well as pollen. We extracted 250 gallons of orange honey this year. Will you allow a little boy the same chance as you do the girls—that is, a bunch of envelopes? If you think that this letter is worth a bunch, please send me one.

ELBERT A. FROSCHER, age 10.

LaGrange, Fla., Dec. 7, 1883.

Why, Elbert, it would be funny if we did not allow a boy the same chance we do a girl. People generally get it the other way. —Now about that orange-blossom honey. That is the biggest lot I ever heard of; and if it is as good as the oranges your father sent us it must be beautiful. Will you ask him to send us a sample in the little block we send him by mail? If it is nice, we want a barrel of it, sure—that is, if your pa can furnish it. And if the bees are working on orange-blossoms now, tell him to manage to save us some as near pure orange-blossom honey as he can.

THE POOR BEES THAT HAD NOT A DROP OF HONEY.

My papa has 54 colonies of bees, and I have one. He got 350 lbs. of comb honey, and 1000 of extracted. Pa went to a neighbor's this fall to help him introduce a queen that he had got from you. He noticed that the bees of one of the hives were acting oddly; he told Mr. K. that he believed those bees were hungry. They opened the hive, and, sure enough, there was not a cell of honey, and I was sorry when I heard him say, "Just let them go." I would have fed them. I will tell you next time how I got my swarm of bees. This is the third letter I have written, but mamma burned the other two. She thought they were not fit to send.

CHARLES A. SEABRIGHT, age 7.

Blaine, O., Dec. 3, 1883.

Charley, I am real glad indeed to hear you say you would have fed those bees; and I am sure almost any of our juveniles would have done so, even if they had had to buy the sugar for doing so. I am very sorry your mamma thought best to burn up your two first letters. You just tell her that Uncle Amos can read children's letters a good deal easier than she thinks for. Tell her I don't mind, even if the letters *are* crooked. I love these little letters just on account of their crookedness, and the juvenile twist that the letters seem to take.

LETTER FROM A 6-YEAR-OLD.

Mamma says I may print you a letter. I can not write well enough yet. I go to school, both day and Sunday school. I should like to see your baby, and help rock it to sleep. I have a hive of bees, some chickens, and 2 ducks. Papa says you call your baby Huber. It is a very nice name.

MINNIE MYRTLE WRIGHT, age 6.

Millerstown, Perry Co., Pa., December 24, 1883.

Your letter is very nicely printed, Minnie, and you have got in the punctuation pretty well, and have put in the capital letters where they belong. I guess your mamma advised you a little, did she not?

FLORA AND THE BEES, AND HER HORSE.

My pa has 17 hives of bees; 5 of them are Italians, the remainder are blacks. I have a share in the bees for helping to attend to them. We keep our bees in the cellar when it is very cold. We all like to work with them, and take care of them. I live in the country, on a farm. My papa farms, and runs a steam sawmill. We all like GLEANINGS. My little sister and I claim the JUVENILE. I go to school every day, and help do the evening and morning work. I have a young horse; he is so kind and gentle that I can drive and ride him any place. Don't you think girls ought to learn to manage horses too?

FLORA J. WRIGHT, age 12.

Millerstown, Perry Co., Pa., December 24, 1883.

Yes, Flora, I do think that girls ought to learn to handle horses. And for that matter, they ought to learn do every thing useful, so that in case of emergency they may be found useful as well as ornamental. Do you not agree with me?

CLARA AND HER PAPA AND THE BEES.

My father has 18 stands of bees. This summer, when the bees swarmed, my eldest sister and I had to watch them, and when they swarmed we would have to run to the shop. Papa is a tailor, and is the only one in this town. He is very busy most of the time. The bees take a great deal of papa's time, but he does not care. He gave me a stand this summer, and says I will have to tend them. One time a swarm came out, and we were cleaning house, and they did not settle for a while, and we did not know what to do, because papa was not at the shop; but pretty soon they settled, and then we were glad; but when I went out again to see them, they were all going back into the hive, and papa said it was because the queen did not come out with them. Do you think that was the reason? Our bees here in Iowa mostly make the honey of white and red clover. The boys take their hats and catch and kill them; I think they are wicked. One time papa talked to a boy for killing one, and told him how bad it was, and then he was sorry.

CLARA MADSON, age 12.

West Branch, Cedar Co., Iowa, Dec. 14, 1883.

I think your pa is right, Clara. They went back because they did not discover the queen among them. Bees could not very well go to housekeeping without a queen. That would look like a home without a mother.

ARTHUR'S REPORT.

My pa put 63 swarms of bees in the cellar the 15th of November; commenced in the spring with 47 swarms; ran 10 hives for extracting; did not allow them to swarm, and got 1600 lbs. from them, and sold it here at home for 10 and 12 cents. My pa shoes horses this winter, but I think I would rather learn to handle bees, as I like honey very much. I read the JUVENILE. I like to read about little Peter, and I should like to see him and hug him. I think Peter is a good name, for Peter was a good man.

ARTHUR HULET, age 11.

Villenova, Chau. Co., N. Y., Dec., 1883.

But, Arthur, your pa could not work with bees in winter very well, were he *not* a blacksmith. I think it is a pretty good plan to learn to shoe horses, or do something useful, while the bees are buried up in the snow, or put away in the cellar; because if one depends entirely on bees, you know they may have a season or two when they would not get much surplus. After one has got established in business, and has got a little laid away for a rainy day, he might, with his 60 colonies, devote his whole time to it profitably, winter and summer—that is, providing he made his own hives and honey-boxes, or something of that sort.—Many thanks for your kind words to little Peter; but his mother says we must all call him Huber now. I should be very glad to let you give him a good hug, if you were here; but he has got so large now that it takes a pretty smart boy of eleven years to handle him easily.

A LETTER FROM CALIFORNIA.

Father went out to see the bees this evening. He rapped at the door of one hive to see if they were at home; he received no answer, and finally he opened the door and peeped in, when, lo and behold! not a single live bee was to be seen. The brood-apartment was filled with comb, but no honey or bees were to be found. Well, they had been overpowered and robbed, and then turned over and helped to carry away their stores of surplus honey. We rapped on all the other hives, and they leaped out and told us they were at home. We stopped up the entrances, leaving 1½ or 2 inches open, and will watch them sharply. We have fine warm weather all the time, so the bees are flying briskly nearly every day. We have sold about $225.00 worth of honey from 10 swarms of bees. I don't know whether we have the right to be called apiarists or not, because we have never yet been able to find a queen, although I have looked and hunted, and hunted and looked for them. Accept our thanks for the fine collection of beautiful labels which you sent us. We have no Italian bees.

Two years ago we got some spider-plant seed of you. Not one single solitary seed ever came up, so I have no experience with it. I think the cause was because they arrived too late in the spring, as the dry weather came on immediately after. Our warm spring weather comes on from four to seven weeks earlier than yours. Phacelia is our great honey-producing plant. It blossoms from April to September, and our bees work on it like little demons all the time. You lay great stress on your honey candying during cold weather. We are not troubled that way, for we never have any cold freezing weather at all—nothing worse than a heavy frost. I suppose you keep urging Blue Eyes and Ernest to pile more wood into that stove, to keep their papa from freezing. I do wish you would come here, where warm weather rules eternally.

Ferndale, Cal., Nov. 20, 1883. C. C. DRAKE.

Now, my friend, you are mistaken about piling in the wood. We not only warm our factories by steam, but we send this same steam over to the house, about 400 feet away from the factory, and the steam-pipes do the warming there most beautifully. All the engineer has to do is to pile in the coal, and then turn the valves so as to let the obedient steam go just where we want it; and with it we can warm up the room quicker than any stove you ever saw would do it. It seems to me simply wonderful, although we have been using them a good many weeks.—In regard to that spider-plant seed, I am afraid we got hold of some that was not good, and in our great rush of business last year it was sent off without being tested. If all the friends who got spider-plant seed last year that did not grow will write us a postal card telling us so, we will send them a package of better seed free. I suppose the phacelia you mention grows wild in California. We have had it in our garden here to some extent.

HUMPIE AND DUMPIE.

Pa has 8 hives of bees. I had 2 pet chickens. Their names were Humpie and Dumpie. One died. I don't know which it was, Dumpie or Humpie. I am going to school. I am in the Second Reader.

EMMA CRAM, age 6.

Dividing Ridge, Pendleton Co., Ky.

Well, now, it is a little sad, friend Emma, if you can not tell whether it was Humpie or Dumpie that died. I suppose it must have been one or t'other, sure.

A GRAND PLACE TO KEEP BEES.

As I want Ten Nights in a Bar-Room, I thought I would write a letter to you for one. My pa has bought ten acres of land between two big hills, to keep his bees and chickens on. It has 12 acres in it. Three acres are cleared, the rest is in timber. Poplar, linn, dogwood, redbud, locust, sourwood, soft-maple, and hundreds of acres of white clover, catnip, motherwort, milkweed, blackberries, and figwort, growing all around the hills. Pa thinks it a grand place to keep bees.

Middleport, O. LAURA M. HOBBS, age 10.

I agree with your papa, Laura. Between great hills, where the bleak winds could not well strike the hives, would be one very decided advantage; and those natural caves you speak of, it seems to me would be the very nicest place in the world to winter bees—and very likely to spring them also. Ask your pa if it is not nice to find a cave where the bees will escape frosts, and yet be enabled to fly out whenever the weather is warm enough. I have often thought of such a place, and it has seemed to me that a natural cave would come nearest to it of any thing. I am a little afraid, however, that it might be cold and damp in the summer time. If so, they would probably have to be set outside.

FROM MAINE TO CALIFORNIA; FROM A COUPLE OF WEE JUVENILES.

We came from Maine to Florida one year ago, and like it very well; have had no frost yet. Father has 12 swarms of bees. They gather honey every day. We take it out as we want it to eat. We have just moved into our new house. I have a wheelbarrow, and helped to move lots of the things. We have 20 orange-trees. Mother reads the JUVENILE to me. I would like one of the little books very much. I read every day in my primer. I can read, and spell words of three or four letters. I am learning to print letters. I shall print you one myself soon.

FREDDIE L. GREEN, age 5.

Emporia, Fla., Dec. 10, 1883.

I go with papa when he goes to the bee-house to work. I am not one bit afraid of bees. When I first began to work I used to peek around the corner of the hives, and got my fingers stung a good many times. If you don't want to hear a big noise when Fred's book comes, send me Jack the Giant-Killer.

Emporia, Fla., Dec. 10. SHELLY GREEN, age 3.

Very well done indeed, my little friends. But I presume it was your mamma who wrote the nice letters you send. I do not think your mamma composed it all, especially that concluding sentence from our three-year-old friend. I suppose the idea is, Shelly, that if Freddie had a book, and you did not have one, there would be just about such a noise as a chick of your age might be expected to make. I am afraid now that our clerks were so careless as not to send two books, so I will have another one sent right off. Uncle Amos never means to show partiality to his little friends.

HOW TO INTRODUCE A QUEEN INTO A BOX HIVE; BY ONE OF THE JUVENILES.

My pa keeps bees, and has nothing but the box hive. For the information of those who are like him, not able to buy the Simplicity, I will tell how he introduces Italian queens. He takes a chisel, and pries the top off the hive, and then he cuts all the comb off that sticks to the top; then he blows smoke in at the entrance till the bees all come out at the top; then he catches the queen, then takes the cage with the new queen, and sets it into the hive on top of the comb, and lets it sit there 24 hours; then he lets her out, and she crawls down between the combs, and the bees receive her gladly. He has introduced five queens with success, and never lost one.

EUGENE COOPER, age 9.

Sherman, Sangamon Co., Ill., Dec. 3, 1883.

Well, I declare, Eugene, you have given the most rational plan I ever heard of for Italianizing bees in box hives. It can be done, no doubt; but if every thing does not go just right, it seems to me it would work a good deal like a man trying to chop wood with his hands tied together.

MOVING BEES AND CUTTING BEE-TREES.

My brother George bought one swarm of bees of Mr. Frank. He has not brought them home yet. When is the best time to move them? Uncle William Gibson came to our house, and he found three bee-trees. He cut two of them, and got the honey; the owner of the trees would not have the other one cut. It was an old elm, and of no account. They were afraid the boys would cut the tree, so he and his wife built up a big fire and stayed by the tree all night, and in the morning they cut it and took the honey. They got six pailfuls of it. What do you think ought to be done with them?

MARTHA E. GAGLE, age 10.

Fort Recovery, Ohio, Dec., 1883.

I think, Martha, a very good time to move bees is during spring, when the weather is not very cold. If they can be moved on a sled when the snow is soft, it shakes them up less than a wagon would.—In regard to that bee-tree, I should by all means say, let the owners have it. In olden times, when forests were open, it used to be customary to accord the bees and honey to the one who found the tree; but now when our forests are comparatively small and all fenced up, I should say the bees and honey ought rather to be considered the property of the owner of the land. Of course, if the man who owned the bees should follow them to where they went into the tree, it would be an easy matter to prove it was his property; but where bees are found as those were, I should just let the matter drop. If the people who own the tree feel like giving your uncle some honey to pay him for his trouble in finding them, of course it would be all right; but if they do not choose to do so, I should say all right, any way. It never pays to quarrel with neighbors. Do you think it does, Martha?

Our Homes.

My meat is to do the will of him that sent me.—JOHN 4:34.

I BELIEVE it is pretty nearly universally agreed, that about the first thing one has to do is to provide himself victuals and clothing; in other words, the first and most important thing is to be sure of our dinner; because, you know, if we do not have the dinner we shall not be good for any thing very long. It is quite natural to think a good deal of our daily food, and, in common parlance, we speak of it as one of the most important and necessary things in life. I remember once meeting a young man who was studying law. He loved his profession, and made an expression something like this: "I would rather study law than to eat, any time." We understand by such like expressions, that the one who makes them is very fond indeed of the thing under discussion. Children are usually on hand at dinner time, no matter how remiss they are with almost every thing else; yet this is by no means an invariable rule. I know of some pretty well-fed children who sometimes get so taken up with their plays that they are loth to come to dinner when mamma calls them. So people of an older growth often get so much occupied with different pursuits and pastimes they are prone to neglect even their meals. Jesus uttered the words comprising our little text when his disciples, after having repeatedly asked him to eat, queried among themselves as to whether he had not had food. If you turn to the fourth chapter of John, you will learn that in his travels he sat down wearied by the side of the well. While he rested there, the disciples went to a neighboring town to purchase food. We infer from the story that our Savior was tired and hungry and faint.

The wells in those days were of little benefit to a traveler unless he had some means of drawing the water. They did not have chain pumps or old oaken buckets, with tin cups and tin dippers hanging out invitingly as they do now; therefore he was compelled to wait until some one came to draw water. I have before directed your attention to the fact that Jesus, while on earth, seemed to have just one great desire and anxiety in life. Most men are given to some especial point, or hobby, as it were; that is, almost all of us have some particular thing in which we are more interested that in any thing else. Many of us have one passion of our lives, as it were. Sometimes it is bees or bee-keeping; sometimes it is to amass wealth. Sometimes it is zeal in the temperance cause, or other things of a like nature.

In studying carefully the life of Christ, we very soon learn that the prevailing thought and intent of his life was to save men from their sins. He went around among sinful people, and labored for and with them, but always with one end in view. When he partook of food, we learn that even then his thoughts were busy and intent on this work of saving souls. Jesus asked the woman to give him some water. But we who know the story well, feel that, while he did so, his anxiety for the salvation of her soul far overbalanced his sense of thirst, and that his desire and wish was to draw her out in conversation in such a way that he might better open up to her the way to eternal life. She, like almost any other one of her tribe, marveled that he should presume to ask her for water, because the Samaritans had no dealings with the Jews. Before the conversation was ended, this woman had confessed her sins, and accepted him as her Savior, for she says to the friends whom she called, "Is not this the Christ?" Now, it has always seemed to me that, although he felt exceedingly wearied and faint before this conversation, yet the thrill of joy he felt in having saved one more soul made him forget, for the time, his weariness and hunger.

Those of my readers who have been instrumental through God in saving a soul can readily understand what this feeling is. A good many years ago, my dear pastor, whom I have so often referred to, spoke to me something like this, shortly after my conversion: "Brother Root," said he, "when you have once tasted the joy that God sends to one who has helped to save a soul, you will remember it as being beyond any thing else this world can furnish." I have thought of this many times; and when one of the boys whom I met in our jail was influenced by me to turn to the Bible and his Savior, I felt that my pastor's words were indeed true. The feeling is a satisfying one —something more real and substantial than any thing you have ever known before. You feel for the time as though you could well afford to let every thing else in the world slip away, if you could only be assured of that one thing. It seems as if God himself were speaking to you, and declaring, "Well done, thou good and faithful servant." The poor humble friends who followed Jesus knew nothing of what had past. He did not immediately explain it to them. I have been wondering if he did not feel as he did when the woman touched his garment, in that other story. You know that he said, "I perceive that virtue is gone out of me." They pressed him to eat; but he said, "I have meat to eat that ye know not of." How many times did he speak that to them in this way, and they, like honest, simple-hearted children, did not see the great meaning beyond the simple words! So they said now, "Hath any man brought him aught to eat?" Then come these wonderful words, the words of our text, "My meat is to do the will of him that sent me."

What a wonderful truth is embodied in that little speech! To do that will was more to him than the world could furnish. He must eat and drink as we do, for he was human as we are. But yet through it all was that great, earnest, and intense longing to do the work whereunto he was called. The world lay spread out before him, and Satan had already tempted him, just as he tempts young men nowadays. Jesus had human longings and human cravings, and he could appreciate and feel for the things of this world, as we do.

If we accept Christ, we must accept him

as human, as well as to accept him as the Son of God. Our pastor made a remark to a young lady at the teachers' meeting, something like this: "My friend, whatever you remember about Jesus, above all things remember that he was human;" and I have often thought of it. It is almost as bad a piece of skepticism to say that Jesus was not a human being, as to say that he was not the Son of God. He had our trials, and bore up under them. He fought against temptations and weaknesses, and hunger and fatigue, and he fought so successfully that God was pleased with him. I have often dwelt on those words that came from heaven, "This is my beloved Son, in whom I am well pleased." Now, God could not have been pleased with one who had not earned his approval, and, following out the same line of thought, Jesus deliberately chose to do the will of God. He was an obedient child; in other words, he could truthfully say, "My meat is to do the will of him that sent me." Not because it was always easier or pleasanter to do that will, but because he chose to obey God; neither was it because he could not disobey, for, if I mistake not, he could have disobeyed, if he chose, just as I can disobey. In studying his life, we find, instead, all along the pathway, it rebuked any unbelief or skepticism we may be likely to fall into. For instance, we sometimes repine because God does not answer our prayers, or does not give us what we crave and ask. Neither did he answer or consent to the request that his only begotten Son made when he prayed in the garden, "O my Father, if it be possible, let this cup pass from me." It is true, he added immediately afterward, "Nevertheless, not as I will, but as thou wilt."

Now, friends, we are taught to follow Christ, for he says, "He that taketh not his cross, and followeth after me, is not worthy of me." And if we are to follow him, can we so live that our meat is to do the will of him who sent us? You may say, we are not sent, as Christ was sent. In answer to which I again and again revert to the passage where we are told to follow him; and again we are told to "seek first the kingdom of God and his righteousness, and all these things shall be added unto you." You see, if our greatest desire is to obey, even as Jesus our Savior obeyed, we have God's promise that he will take care of the meat and the drink and the clothing. Do you not remember where he says, "Take no thought for the life, what ye shall eat, nor for the body, what ye shall put on. Is not the life more than meat, and the body than raiment"? Please read all along through this twelfth chapter of Luke, from which I have just been quoting, and see if we are not exhorted to forget, as it were, our meat and our clothing, in our desire for that spiritual food which God promises to all his children. He says again, "And seek not what ye shall drink, neither be ye of doubtful mind." I can readily imagine that Peter, or perhaps our friend Thomas, of doubtful mind, here interposes:

"Lord, how is it we shall take no thought of food or clothing? Under what conditions may we put these very important things in life as only secondary?"

We may readily infer that the Savior guessed their thoughts, for he says immediately afterward, "But rather seek ye the kingdom of God, and all these things shall be added unto you."

As if that promise were not enough, he goes on still further, and in kind and loving words says: "Fear not, little flock." Were ever any words more appropriate to those poor simple-hearted fellows? And then comes this great and wonderful promise, making food and raiment sink into utter insignificance, so to speak—"For it is your Father's good pleasure to give you the kingdom." As I understand it, not only were they to be supplied with the necessaries of life, but to those who will seek God and his righteousness before every thing else the world can afford, the promise is ultimately the whole universe; for you know we have it again in Christ's own words, in that wonderful sermon, "Blessed are the meek, for they shall inherit the earth."

Do you ask me if it is our duty to stop working and toiling for food and raiment, and houses and places of business, and endeavor to follow Christ by having no earthly possessions? No, I do not so understand it. But I do understand, that in all our business operations our foremost thought should be, like that of our Savior, to do the will of our Father; that is, our first and foremost object and aim and passion in life should not be to make money, neither to accumulate property, nor to get education, but to do the will of the Father. Let me try to make a pen-picture for a suggestion. You know how people occasionally get carried away with some single idea or invention of theirs. One learns to handle bees, and he rejoices at every opportunity of hiving a swarm and transferring a colony. He will even go and do such work for his neighbors, just for the fun of it, working for nothing, in order to test his ability to manage the little insects. Another one loves horses. He loves to prove his ability to so win upon their affections and feelings as to be able to manage them as Rarey did. He does not want any horses to balk; but yet he feels so certain that he can handle a balky horse successfully, he rejoices at the opportunity of being near when a horse does balk. Handling horses is his meat and drink. He would rather do it than to eat, as the young lawyer says. He goes out among horses, working with them without charge, just because he loves to, and loves the horses. His object is not to make money—at least, not for the time being. It is to follow out this wonderful new world that is opening to him in this direction, and to study God, perhaps, through God's creatures. He loves the work, instead of loving the money that it brings him.

Now to go back to this man who goes into business. Suppose he has become thoroughly converted. He has studied the life of Jesus until he rejoices at an opportunity of demonstrating to the world the power there is in the maxims Christ has taught. He reads to the world, and talks to it about turning the other cheek also, when one is persecuted. The world "poohs" at it, because the idea is so much against the grain, and utterly ridiculous. Our friend, in his zeal to demonstrate that the teachings of Christ are true and right, almost wishes somebody would test his love for his Master by striking him on the right cheek. Perhaps my illustration is a pretty strong one, but I can imagine such an enthusiast on this subject of returniug good for evil; and I can imagine, too, that the love and devotion to his Savior should be the prompting motive and the impelling power. Now, this man can not go and get into a quarrel, to demonstrate the power of Christianity; because in so doing he would be entirely outside of Christ's teachings. It would never be consistent for a Christian to do such a thing. "Then," says he to himself, "how shall I manage to get where jangles and quarrels are, in order to test these peace principles?" After some thought he decides, "I will go into some business, not to make money, but to prove to the world that the words of Jesus are true." In going into business he studies the model life again. He endeavors to put himself under Christ's teachings. One of the first things he must do as a Christian business man is to be straight and upright. There must be no prevarication, no evasion, no swerving one hair from the truth. When tired and fatigued, hungry and thirsty, he must be frank and honest—must not excuse himself; that is, he must give the real reason for every course of action he takes up. If he has made a mistake, he must own it up to the full—to the very letter. Profit and loss must not bias him the minutest fraction. Further than that, if his great and inspiring motive is to win souls, and do God's work, he must consent to bear more than his share of the burdens and trials and losses of business when it will, in his opinion and judgment, be the means of furthering this greater and more important work. All else has to be sunk out of sight in the desire to follow out the strict spirit and teachings of the Bible. More than that, he must have a kind and neighborly feeling toward every one. He must show in his looks and actions that it is a pleasure for him to serve people. In waiting on customers, he must look out for the wants and wishes of every one of them, exactly as he would have people look out for his wants and wishes. Nay, more; he must do more for humanity than he asks it to do for him. He must start out with the purpose of being a servant, and of making his service a loving service. When you hear that some very dear friend is sick, and you are prevented from going to him, if some unexpected opportunity should take you right there, you would enjoy waiting on him, and making him comfortable. You enjoy it, because of your regard for him. Now, the individual we are picturing does business, not from a love of gain, but from a love of the busy throng of humanity whom he meets through business. No matter how selfish or disagreeable are the characters that are thrown in his way, out of love to Christ he treats them all in that same friendly, loving sort of way. "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me." I know I am imposing a great task upon my ideal character. There are people in this world who have some of these rare qualities, but perhaps none that combine them all. We sometimes meet with successful merchants or clerks who have a wonderful gift of so throwing their whole souls into their business that they can look out for the needs and interests of a customer as if it were themselves, or as one would try to please his own mother, for instance. One can occasionally do this, and it is a comparatively easy thing to love your neighbor as yourself while that neighbor is a pleasant, generous person; but I tell you, friends, just try to work for difficult, disagreeable people in that way, and to keep persistently doing it, no matter how unkindly you are treated in return, requires something almost beyond what is human.

You may say that I am putting more of a load on one individual than he can bear up under physically. Well, suppose while he does all his strength will allow, he does it with the meekness and humility that Christ teaches, and that every one who knows him is at length forced to believe that his meat is not to make money, or get a great name, or praise from the world, but that it is, like our text, to do the will of the Master. Suppose he shows the same zeal and intense devotion in all these things that one does who loves bees and horses, or things of that nature, and that he really and honestly, from the bottom of his heart, cares nothing for the money or property that he may gain, only so it gives him facilities for showing forth the spirit of Christ.

Another element which I have not yet brought in would be that he should be looking up the destitute, and all who are struggling hard against trials and adversity, that he should make his business the means of helping the helpless, rather than those who are able-bodied and can easily take care of themselves; that, instead of selecting helpers for his work, he choose not the easiest to get along with—not the most successful and apt—not the brightest and best educated, but, rather, those who needed the help he could give, until all persons understood his work was Christ's work, and not for the world.

Well, what do you suppose would be the result, friends? I hardly need ask you. It seems to me I can see your faces brighten and soften into a smile already, and I can almost hear you say, "Why, Mr. Root, the thing is incredible—impossible. There is not a man living who can do it. We are all human, and selfishness is so ground into us that it would have to be an angel to go into business and do as you have mapped it out there. But if it could be done, the man would build up the most magnificent business the world has ever known. There is not a doubt of it, but yet I have no faith it could ever be done."

Dear friends, I have been in business—*am* in business — very extensively, and I know something about it. The worst hindrance that I know of to the best and largest business houses in the world (and I have dealt with some of the largest that exist), is selfishness. It is little tricks and twists, as it were, that spoil confidence and stop trade, or induce customers to go somewhere else, and finally come back to the old place, with the sad feeling that the world is about all alike. We can not expect to find business done according to the golden rule anywhere. To come right home, dear friends, the worst drawback to the progress and prosperity of *our* business is this same feature. It is with sadness and sorrow I am obliged to confess, that, notwithstanding the most careful watchfulness and prayer for God to help me over these besetting sins, I see them cropping out here and there, and all around. And yet in spite of it, our business has been blessed — blessed far more than we deserve. If it were indeed true, that my meat is to do the will of the Master, I should be very different from what I am now. I find this same disposition in the clerks who are working, and it would be strange if it were not there; for they would have to be more than human, if they did not lean toward my interests in all transactions. In the contents of a single mail I find complaints like these. One very good kind friend writes that a pair of scissors we sent him were broken, and that the piece of blade that was broken off was not in the package, and so it could not have been broken on the way. The clerk who put up the order, surely did not do as he would be done by; because if he were buying a pair of scissors, and paid the full price for them, he would want two full blades. Another clerk was going to send a friend a pair of spectacles with the case half an inch shorter, so that they could not be put into the case; and when asked for an explanation, said it was the best that we could do. Cases of a proper size were up on the shelf, and forgotten. To do as you would be done by, would prompt that the clerk should come to me with the words, or something like them, "Why, Mr. Root, you surely do not mean to send out cases that are not long enough for the spectacles the customers buy with them?"

And so it is all through. The prevailing motive in life is not to give everybody else just what you would like yourself, but to get rid of inconvenient stock, and to get it off from your hands. Poor short-sighted humanity, who fondly hope to prosper by such poor short-sighted economy!

In the foregoing remarks I am, perhaps, a little uncharitable, and may be it was this sin of half-heartedness that allowed things to go in this shape, rather than a want of care for the needs and rights of our customers. A great many times things of this kind come about because the person who allowed it to pass did not seem to recognize that it was especially *his* business to attend to the matter. This brings out another element that is needed to follow Christ. It is, that you should protest against wrong, whenever it comes to your notice. Do not fall into the error of thinking that one who follows Jesus must let every thing go in this world just as he finds it. Of course, some wisdom and discretion are needed to decide just how far a Christian should interfere, and how far he should let things pass.

Since the first part of this article was written, I have attended a convention at Columbus, and am now home again, bringing many pleasant memories with me. I have made the acquaintance of many new friends, and have received many excellent hints and suggestions from them. I found a new lot of brothers, as it were. And now, friends, perhaps I shall surprise you a little if I tell you of one little simple remark that I treasure up, and thank the kind friend who said it, more than for any thing else I now remember. This friend and myself were having a little familiar chat, and he was asking about the factory, and my boys and girls. Finally, with some little apology, he spoke as follows:

"Mr. Root, I have followed you many years; I read your Home Papers, and love them; and I have often wondered how you bear such a multitude of cares as you carry, being, at the same time, only the slight and frail-looking man you are. Now, after saying this I want to find fault a little. I visited you several years ago; and while there I heard you reprove one of the young ladies, in a way that seemed hardly in keeping with your general character. She made no reply, but seemed very much hurt. Now, I want to know if you are in the habit of doing so often; and if you know how it may hurt your influence, and hinder the work I know you are trying to do."

Although the above were not the exact words, as nearly as I can remember they are the substance. And may God bless that friend for having said them! One whose meat it is to do the will of the Master should be ready enough and bold enough to reprove and to remonstrate in just that way, and under just those circumstances. And my mind ran over the years that have followed since that incident, although I can not now remember it. It was worth more than I can tell, dear friends, to know that I had made *real* progress against that one besetting sin. It has been hard ground to fight over, and for years it seemed as though the progress made was scarcely visible; but through the grace of the dear Master, the hard stern disposition I inherited from away back in the line of the Puritans has been slowly molded and made over. It is but a few days ago since I was congratulating myself that almost a year had passed since I had given way to that fretful, fault-finding disposition, and really "scolded." Now, friends, I have been greatly helped in this work by the admonition, in plain talk, of Christian friends; therefore if you are to do Christ's work you must be ready to reprove in just the way that the friend talked to me at the convention.

Before closing this talk I want to give you a letter, just as it came from a brother who, like myself, is trying to fight the good fight. I believe it will give a good many of us a lift toward eternal life. Let us read it:

Friend Root:—(I wish I could say Brother Root), I can not do without GLEANINGS. I would as soon do without my supper. I can thank you for one thing, at least, for sending out sample copies. I sent to you for one in 1878. I then took the bee-fever. I read and re-read that number until I dreamed of bees. I then sent for a dollar queen and two hybrids. The hybrids were a failure, but the dollar queen is as good as I want for that sum of money. After I first saw her laying, I saw yellow bees almost every night. If you ever saw a happy fellow it was I when the first Italians came out to play one evening; then I had the bees, and did not know how to take care of them. I concluded to take GLEANINGS. It did not take me long to think you were a better man than I was. The Home Papers were the first thing to read, and I can thank God to-day for them. After following you in your trials I saw things in a different light, and yet I am a sinner. It seems impossible for me to be a Christian. When I get to be tolerably good (in my own opinion), some one gives a push backward, then good-by to religion for awhile. I am so weak on that point, it takes a good while to get up there again. There are three things in "Paradise" superior to religion. They are drinking whisky, swearing, and chewing tobacco. The men and boys swear almost to a man (or boy) as the case may be. I do neither, and yet I feel the need of more of the right kind of spirit. I know right from wrong, but the flesh is stronger than the spirit. I would tell you more of my trials, but have written too much now. Please forgive me this time, for I believe you are a friend to sinners. I wish you success in your undertakings, for I believe you deserve the blessings of God and man.

Paradise, Mo., Dec. 15, 1883. JAMES T. SWAN.

There are several points I would call your attention to in the above. Friend S. says he likes GLEANINGS as well as his supper; and a little further on, that he dreamed of the yellow bees almost every night. That is a good symptom, friend S., that you are making progress in bee culture; and in the same way it is a good symptom when you dream of holding in your temper while you are trying to be a Christian. I remember that, for the first year after my conversion, when I used to dream that I had given way to my temper, I awoke in awful remorse and sorrow. By and by, perhaps after a year or more, I used to dream of praying when tempted; and, oh what a relief it was! for in answer to the prayer of my dream a loving Savior always responded promptly. Friend S. imagined that I was a better man than he was. But, you see he did not know me. He says it seems impossible to be a Christian. My friends, he had that feeling just because he had squared himself right before Satan, and had begun the fight. Don't be frightened when you feel the same way; never, under any circumstances, say for even one brief second, "Good-by, religion." We all know, dear friend, that it takes quite a little spell to get back after we once yield to temptation, and get away. I hope, dear friend S., that I *am* a friend to sinners, even as the Savior was and is a friend to sinners like myself. Never hesitate about saying right out, "*Brother* Root," when writing to me. The term "brother" gave me a thrill of pleasure the first day I went into the prayer-meeting, and I have not forgotten the pleasant sound of it yet. It comes with even more of a thrill, if any thing, when it is used by those who have not yet made an open confession, for it means to me a recognition of that one great Father, and the infinite love that he so freely extends to us all, even though we be sinners.

Now, then, dear friends, how is it? What is your meat? Is it bees and honey, and the things of this world, or is there really an under-current, stronger and greater than all the world can furnish, to do the will of Him who in loving kindness died for us?

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, JAN. 15, 1884.

Do good to them that hate you.—MATT. 5:44.

WHO can furnish us with some horsemint seed?

A DISCOUNT of two per cent will be given on all orders before Feb. 1.

UNTIL further notice we will pay 10 cents each for the following: January JUVENILE, February GLEANINGS and JUVENILE, and May JUVENILE, 1883. And all numbers of 1875.

LEST some one take our friend to task who writes a little poem on p. 59, for saying the bees carry the wax upon their legs, I would suggest that he probably means by the term wax, the propolis which they get from balm-of-gilead and other similar trees.

A GOOD many years ago we made honey-extractors to turn the frame inside of the extractor. As it made quite a little more expense, we never recommended them very much. As several of our friends are now calling for such, we will say that we can furnish them made in that way for any kind of frame for $1.50 more than the usual price. This additional expense is because a larger can must be used, as well as larger inside work.

BEESWAX, AGAIN.

WE are sorry to say, that we shall be obliged to advance the price of fdn. 3 cts. per lb. on all orders received after the last mail on the last day of January. At present we will pay 33 cts. per lb. cash, or 35 in trade for wax. Our selling price will be 40 cts. for common run, and 48 for selected. We hope there is a stock in the old countries that can be profitably shipped to us at these prices.

DECLINE IN PRICES.

WHILE we are having jangles about the advance of wax and glass, it is pleasant to know that on other things we are having a decline, and I do not know that I ever heard anybody complain when I charged him less than the printed price. Singular, isn't it? Well, the enamel cloth that we have been selling so many tons of, we can now furnish you for 20 cts. per yard (45 inches wide, remember), or a whole piece of 12 yards for $2.25; 10 pieces for $20.00. Nails of all kinds are very much lower than our price list gives it. Prices furnished on application. Our celebrated $4.50 scale is now only $4.00; 2 for $7.50. There is also quite a decline in screws, and on many of the counter goods, all of which you will find in our new price list now in press.

TOBACCO OR WHISKY?

A FRIEND takes exception to our statement, that tobacco is doing more harm than intoxicating liquors. I presume that those who hold to this opinion mean that tobacco leads indirectly to more harm; for those who never commence to use tobacco, rarely if ever commence whisky. Did you ever know a man to drink, who did not use tobacco first? Dr. Kellogg says that the boy who voluntarily commences to use tobacco which he does *not* like will surely take up with the next vice that presents itself to him, that he *does* like.

THE FOUNTAIN PUMP.

THE inventor and manufacturer of this beautiful little implement has decided, like the publisher of the Story of the Bible, that he can not let me retail them any more at 75 cts.; therefore the price will be, hereafter, $1.00; two for $1.75; or one-fourth dozen for $2.25; so you see that you will have to "chip in" as above, if you want them at the old price of 75 cts. as there will be quite a saving on freight and express by so doing, it will not be so bad an idea, after all.

QUITE a number of the friends have written at different times, telling us to keep GLEANINGS going as long as it is published, and when we want the pay, to send in the bill. Now, we should be very glad to keep right on sending it to you year after year, if we are only assured that you want it; therefore our subscription clerk will hereafter put a letter O on the label to your journal, and this means that we are not to stop it until you tell us to. We expect, of course, you will send us $1.00 each year, on or about the first of January. But the idea is, the paper is not to be stopped until you order it stopped.

STORY OF THE BIBLE.

THE publisher of the above book absolutely forbids my selling it at retail at the very low price of 75 cts. each, and is not willing to let me have the books unless I sell single copies at not less than $1.25 by mail, or $1.10 by freight or express. I can, however, sell two copies for $1.75, or one-fourth dozen for $2.25; so if you want it at the old price you will have to get two of your neighbors to join in with you, making a small wholesale transaction of it. Remember that the postage is 15 cts. in any case. As the book is wonderfully cheap at even $1.25, I presume the publisher is right in regard to the matter.

CHANGE IN THE PRICE OF THE BRITISH BEE JOURNAL.

The *B. B. J.* is now, like GLEANINGS, a semi-monthly. But they have advanced their price to 7 shillings, which would be about $1.75 a year, of our money. The best arrangement we can make with them will make it necessary to charge $1.40 for it to our subscribers. This includes postage and all. As we have heretofore been exchanging the *B. B. J.* for GLEANINGS even up, we shall be out of pocket, unless the friends whose subscriptions run into 1884 will make it up to us at the rate of $1.40 per year. Subscriptions may be sent us as heretofore, and we will mail the journals as we receive them from England, all in one package.

DIVISION-BOARDS AND DUMMIES.

AFTER the article from friend Porter was in type, he sent us the following:

> Another advantage in favor of the full 10-frame hives should be named. Those who winter on the summer stands can leave the dummies or division-boards in, or replace with a cushion on one side, and give that much more protection.

While we are about it, why not use a frame of sections in place of the dummy, and then the bees will have room to store in on the side as well as on the top of the brood; and this is exactly the way we have for years managed Simplicity and chaff hives for side storing. If we really do not want the bees to store honey at the side as well as above, put in the chaff-cushion division-board in common use. Then they will all be ready fixed for winter, as friend Porter suggests.

DECLINE IN HONEY, SUGAR, ETC.

OUR friends may read all the sugars in our price list at ½ cent lower, with the exception of the Early Amber. With the decline we have had in sugar, honey seems likely to come down some, and we have been offered very choice honey so low lately that we now offer it for an even 10 cts. per lb., in lots of not less than 50 lbs. At this low price you will have to furnish or pay for the package. The most convenient shipping-can is the iron jacket. A five-gallon can is worth 68 cts., which makes the price of the can, honey and all, $5.68; or a 100-pound can, can and all, $11.10. It seems to me at these prices honey should come into general use as an article of diet. The honey we offer at this price is clover and basswood. We can furnish you goldenrod and other fall honey at one cent lower still.

A WORD TO THOSE GETTING OUT PRICE LISTS OR CIRCULARS.

I FEAR some of the friends, in ordering circulars, especially those containing considerable matter, overlook the fact that it costs as much to set the type for 500 as for 10,000. For instance, a price list like friend Doolittle's can be made for 2 cts. each, providing 5000 or more are wanted at a time; whereas if somebody wanted only 500, they would cost 10 cts. each—$50.00. Friend Viallon also has a very pretty price list, but he had only 1000, so they cost him about 3½ cts. each. After the type was all up, and we had got it in the press, ready to print, we could easily have given him another thousand for not over 1½ cts. each. Now, it seems to me when you go to work to get up any thing that costs so much, it would be well to have an extra thousand or two, before the type is distributed. If you want to increase your business, it seems to me that they surely would be worth what they cost, to give away to your customers, or to hand around among their neighbors.

"WHY DO I HAVE TO KEEP WRITING, TO MAKE MY JOURNAL COME PROMPTLY?"

WE are sometimes severely blamed because subscribers have to write repeatedly, to get missing numbers. Now, friends, they are all mailed from here promptly; that is, they all go from our office wrong, or they all go right. When the address is once in type, it stands, unless you order it changed, and GLEANINGS is issued regularly. We do not skip for Christmas, for Fourth of July, or any thing of the kind. Now, as the trouble must be at one end of the route or the other, it seems to me the fault must be at your postoffice. A great many have got at the mischief by interviewing the postmaster, and inquiring if there were not some one else of the same name, or nearly the same, who got their mail. It is gratifying to us to know that people who are not bee-keepers often like to read GLEANINGS; and when it gets into their box they take it and use it, even if the initials of the name are not what they ought to be. Of course, we will always cheerfully send another copy whenever you miss any particular one, and we are always glad of the opportunity of furnishing extra copies for samples; so if you can stand it we can.

PUT ON YOUR COUNTY.

The troubles, losses, vexations, and disappointments, in consequence of having goods sent wrong on account of the county being omitted, are not yet over. You may say that we can find the county by the Postal Guide; but the Postal Guides are often wrong. Every man knows better what county he lives in, than anybody else; and it seems to me he is the one to tell. A friend writes to-day that he does not think he should be held responsible for omitting the county, as he had given it in his previous letter. The trouble is, friends, how can we know that there has been a "previous letter," unless you say so? Old regular customers we can remember, it is true; but where from 100 to 200 letters are coming daily, just think of the task of looking up the correspondence for each one who omits to give his county. I do not see any other way than to have it printed on all your stationery.

THE PURPLE BASKET.

In my article on half-heartedness on p. 16, last number, I told you I would at once make some arrangement for matter demanding immediate attention. Well, we have got the arrangement. It is a little willow basket with a card securely tacked to one side. On this card is printed in plain black letters,—

To clerk receiving this basket: Attend to contents immediately. Then give to next clerk to whom it belongs. Be sure to have an answer of some kind go out by next mail. When you can't get any further with it, put it on my desk. A. I. Root.

On the other side of the basket we have got this:

Don't let this basket rest.
Till it fetches round on Mr. Root's desk.

The basket was finished just before opening a large mail, and I tell you it did excellent service just that one day. It was traveling almost constantly, and reached nearly every desk in the office during the day, and resulted in straightening out a good many jangles, and getting replies back to the badly used friends by the very first mail. Now, then, when you write something that needs urgent attention, just say, "The clerk who opens the mail will please put this at once in the purple basket." And then if you do not get some kind of a reply by return mail, it will be funny.

SETTLING ACCOUNTS.

As usual at the close of the year, we have more or less wrangling in attempting to settle up all unfinished balances; and there is one point on which I fear a good many of the friends misunderstand us. It is not that we wish to get every cent that is due us, but we want things *right*. If there is 25 cts. due us, we want it; and if there is 25 cts. due you, we want to pay it, and I hope we are just as vehement in trying to have the latter made right, as the former. I have been accused of being "fierce on a dun." I think likely I am, dear friends; but many of you have found out that I am "fierce" when the balance is the other way. The clerk who has charge of the matter tells me that we have sent statements to about 1500 people who have credits here, and sometimes we have had quite a jangling in trying to make them take what belongs to them. For instance, after a credit has stood a year, and we do not get any reply in regard to settlements, we write to the postmaster. If he says the man has moved away, we write to the postmaster where he now resides, and so on; and a few of the friends have got indignant about it, and have told us to give it to some charitable institution, and stop dunning them with postals. Please bear in mind, now, will you not? that our business has gone beyond my immediate eye, or my recollection, and that a great part of it is done by clerks who simply follow established rules; and I hope you will find them just as anxious to pay the debts of the establishment as to collect them. You can not think how it lubricates the wheels of the machinery of our business to have all of you reply promptly when you get a card of debit, or credit either. If our account is not right, please "say so;" and if it takes of your time, and postage too, say so. Make out your bill, and I will gladly pay it. If you are awful busy, just tell your little girl to write us about it. I like to do business with little girls, and little boys too, for they will almost always talk, and they generally talk right out, no matter whom it hits.

CONVENTION NOTICES.

The Maine Bee-Keepers' Association will hold their annual convention at Lewiston, Feb. 14 and 15, 1884. F. O. Additon, *Pres.*
Wm. Hoyt, *Sec.*

The 15th annual convention of the Northeastern Bee-Keepers' Association of New York will be held in Syracuse, Jan. 22, 23, and 24, 1884. Judging from the programme we have received, a profitable time is anticipated.

CIRCULARS RECEIVED.

Friend I. R. Good, Tullahoma, Tenn., has sent us a postal price list of queens and bees for 1884.

U. E. Dodge, Fredonia, N. Y., has sent us a one-page price list of bees, queens, and supplies.

Bright Bros., Mazeppa, Minn., send out a very pretty price list for 1884, we presume, although it is dated '83.

M. H. Hunt, of Bell Branch, Mich., has just ordered from our press his annual circular of apiarian supplies.

As you will see in another column, we have just shipped friend Viallon his regular annual announcement for the coming season, relative to bee matters.

Guyton Bros., Waco, Tex., have likewise lately received from our job rooms their circular and price list of bee fixtures for 1884.

Friends Flanagan & Illinski, of Belleville, Ill., have also received from here their annual price list of bees and apiarian supplies.

Lest you may think our printers have not been very busy this past month, we will add that they have also just printed a price list of apiarian supplies for F. A. Salisbury & Co., Geddes, N. Y., and have several more now in process of completion, which will be duly announced when done. In sending for estimates, some of the friends have asked for low rates, on account of this being the dull part of the season. Please remember that winter is the printer's harvest-time, and summer his vacation. The rush in the saw-room seems to be transferred to the type-room just now. But whether we do the work in summer or winter, we will always give our lowest rates; and please remember, too, that our rates include the free use of any of our cuts. Would it not be well to bear this in mind when saying that other parties will do your work for a little less?

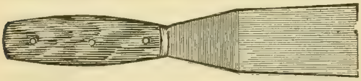
Mrs. Cotton sends out a new circular for 1884, and also a new and revised edition of her bee-book. I can not find that she offers the book for sale, except with the drawings and illustrations for making the hive, at *four dollars*. I do not see how we can consistently give any different advice to those who make inquiries in regard to her, from that we gave a year or so ago, as follows:

> I am being asked my opinion of the new circulars Mrs. Cotton is again sending out quite plentifully. The statements she makes, and the prices she charges for the goods she sends out, would, in my opinion, forbid her being classed with our regular supply dealers, to say nothing of the strings of complaints against her that have filled our bee-journals for years past.

OUR 20-Cent COUNTER

As a rule, no one has complained that the goods in our counter store were high-priced, for, in fact, the success of the plan depended on selling goods for even change, and that the labor saved by so doing would enable us to sell them less than usual. Well, there have been a few complaints that some of the 25-cent goods were high in price. The reason of this is, that any article costing 15 cents or over must be sold, a single one at a time, for 25 cents. We have often thought of a 20-cent counter, but disliked more complication. However, the trade has at last grown to it. Below we give you a list of the goods taken out of the 25-cent counter, which will be hereafter 20 cents each. Wholesale prices will, of course, be as heretofore. Also some new goods.

Postage.]		[Pr. of 10,	of 100
3	BIT, best make, ⅜, 5-16, ¼, or 3-16 ..	1 85	17 50
18	BRACE, Carpenter's, with set screw, just right for tapping trees	1 60	15 00
2	BRUSH, COUNTER, neat and useful....	1 75	16 00
4	BURNER, (Lamp), Sun hinge, No......	1 85	17 50
48	CLOTHESPINS, best wooden, 6 doz. in a basket, basket and all, only 20c....	1 60	15 00
5	FILE, DOUBLE-ENDER, 10 in., with handle	1 60	15 00
9	FILE, FLAT MILL, 10-inch..............	1 85	17 00
18	GLUE, 1 pound	1 80	20 00
	For making cheirographs, or carpenter's use; an excellent article.		
8	HAMMER, METAL HANDLE, inlaid with Walnut, Light and Handsome....	1 60	15 00
19	HATCHET, *chilled* iron, Painted Red	1 65	16 00
2	KNIFE, 2-BLADE, Fine Quality, Am.	1 90	18 00
6	OIL STONE SLIP, the best	1 70	16 00
18	PARAFFINE, per lb.....................	2 25	21 00
	For waxing honey barrels, putting in starch, etc. etc.		
2	PENCIL, AUTOMATIC, Eagle, ...	1 65	16 00
	With copying lead. This pencil has been a great boon to me. It writes very easily, and makes a plain purple mark that will copy as well as a copying ink if desired. A box of 3 leads for above, same price as pencil.		
10	PAPETERIE, or box of stationery.....	1 75	16 00
	Containing 24 envelopes, and 24 sheets paper, fine paper, and a beautiful box to keep it in.		
3	PLYERS, FLAT NOSE, ROUND NOSE, and LONG NOSE..........................	1 75	16 00
	These are polished steel, and a very pretty and useful tool.		



5	PUTTY KNIFE	1 60	15 00
	Fine steel, cocoa-wood handles, steel ferule, beautifully finished; with stiff blades or thin elastic blades, as you choose. Excellent for scraping off wax and propolis in bee-hives. The blades are made extra wide with this end in view.		
3	ROBINSON CRUSOE, Complete....	1 75	16 00
	Illustrated by many pictures, 240 pages, fine print.		
3	SCISSORS, GENTS' solid steel	1 80	17 00
4	SHEARS, solid steel blades, nickel-plated, 6½ inches long	1 85	17 50
	In order to get such a wonderful bargain in these little shears, I ordered at one time 100 dozen.		
4	SOCKS, celebrated Shaw knit	1 90	18 50
	The best hose made, for the money.		
3	SPOON, table, (Hall & Elton's) G. silver	1 85	18 50
	STEW PAN, STONE WARE, *glazed*.......	1 75	16 00
	Can be set right on the stove without injury, has a bail to lift it by, a most useful utensil.		
10	THERMOMETER, Best, 10 inch	1 50	14 00
20	VISE to screw on the bench, with anvil, small, but a *very* handy tool	1 70	18 00
7	WIRE, galvanized, one pound, No. 17, on spools............................	1 80	16 00

GLASSWARE.

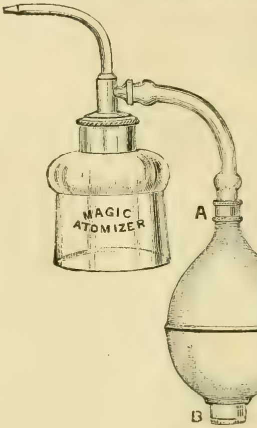
	HONEY DISH, with cover..............	1 75	16 00
	BUTTER-DISH, Albion pattern	1 75	15 00
15	INK STAND, snail-shell pattern, mounted in bronze, very pretty ..	1 75	16 00
	LAMP SHADE, PORCELAIN	1 80	16 00
	Same as on 15c counter only 7 in. Brass ring to support them same price		
	TOY SET, CHILD'S, very pretty; butter-dish, pitcher, spoon-holder, and sugar-bowl in a nice box..............	1 80	17 00
	BREAD PLATE, "Our daily bread,"...	1 85	17 50
	SALTS, individual, 1 doz. in a box ...	1 85	17 50

TINWARE.

17	CULLENDER, full size, 11 in.	1 65	15 00
	GALLON MEASURE, with lip	1 75	16 50
	DISH-PAN, 13½ in. across, 6-qt.	1 75	16 00
	Stamped and re-tinned, a most beautiful and useful utensil for the kitchen.		
20	PAIL, COVERED, 4 qt., ...	1 60	15 00
10	PAIL, lettered and painted "Pure Honey," 2-qt	1 75	15 00
18	PAN, SAUCE, with lip, beautifully re-tinned, and *looks* as handsome as Silver-plated, holds 3 qts	1 80	16 00
	TEA OR COFFEE POT, 1½ qt..............	1 85	17 50

A. I. ROOT, Medina. O.

ATOMIZER,
OR
SPRAY-DIFFUSER.



The little instrument shown above is very convenient where bees are to be sprayed, or for any purpose whatever, whether for treatment of foul brood by salicylic acid, or for scenting a colony for introducing queens and uniting stocks. The instrument is very neatly made, the metal work all nicely nickel-plated. Extra valves, and needles for cleaning the tubes, accompany each instrument. It is worked by the rubber ball B. The whole packed in a strong neat box. Price $1.00; by mail, 10 cts. extra

A. I. ROOT, Medina, Ohio.

PRICE LIST OF ITALIAN QUEENS & BEES,

And Bee-Keeping Fixtures, sent free to any address.

GUYTON BROS.,
2-3-4d **Waco, McLennan Co., Texas.**

Being Largely Engaged

In bee culture, I keep always a full supply of Bees, Standard Langstroth, and movable-frame Hives. Those white figured sections, noted throughout Canada; comb foundation, and all apiary requisites. An experienced apiarist wanted.

DR. NUGENT,
2d **Strathroy, Ontario, Canada.**

BUCK & SWALLOW,

Manufacturers and Dealers in

APIARIAN SUPPLIES,

And importers of Italian Queens, &c.,
2816 Missouri Avenue, ST. LOUIS, MO.
Send for circular and price list. 2tfd

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ASHMEAD SIMPLICITY BEE-HIVE!

Simple, cheap, and practical. This hive does away with all frames for comb honey; and as it is in tiers, all the heat of the hive is confined just above the brood-chamber. Can use it with or without separators. Send $1.50 for a sample hive, and write for prices in the flat. Manufactured by

T. GRAHAM ASHMEAD,
3d Williamson, Wayne Co., N. Y.

Stanley Dollar Smokers

U. S. Standard Honey-Extractor: 10% off list price. Also other supplies very cheap. See advertisement in January GLEANINGS.

G. W. STANLEY & BRO.,
3-5-7d. Wyoming, N. Y.

1884. COLONIES, NUCLEI AND QUEENS, FOR SALE. 1884.

For terms, address

S. D. McLEAN,
3-5-7-9d iq COLUMBIA, TENN.

A Full Line of Apiary Supplies.

Headquarters for the West. Send for price list. Cash paid for beeswax. HOWE & SON,
1-6d No. 303 Broadway, Council Bluffs, Iowa.

CYPRIANS and SYRIANS direct from their native lands. Fine queens before June 1st, $10; extra fine, $12; during June, $9; extra fine, $10. **Carniolans imported from Carniola, and Italians from Italy.** Fine queens before June 1st, $6; extra fine, $7; during June, $5; extra fine, $6. Any six queens, 5% off; ten, 10% off. Safe arrival. Expressage prepaid to N. Y. Send U. S. bills in registered letter to
3-5-7-9d FRANK BENTON, Georgen St., 8, Munich, Germany.

STEAM BEE-HIVE FACTORY
OF THE WEST.

Hives and sections of all kinds. Italian bees, colony or nuclei; comb foundation, smokers, extractors. Best and cheapest saw mandrel made; Babbitt boxes all complete, 20 inches long, $6.00. All supplies very low for cash. E. Y. PERKINS,
3-5-7-9-11-13d Jefferson, Greene Co., Iowa.

Dadant's Foundation Factory, wholesale. See advertisement in another column. 3btfd

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2,00 per year.

Those whose names appear below agree to furnish Italian queens for $1,00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 1tf
*Paul L. Viallon, Bayou Goula, La. 1tfd
*S. F. Newman, Norwalk, Huron Co., O. 1tfd
*Wm. Ballantine Sago, Musk. Co., O. 1tfd
*D. A. McCord, Oxford, Butler Co., O. 3-2
*D. G. Edmiston, Adrian, Len. Co., Mich. 2tfd
*Jas. A. Nelson, L. box 83, Wyandott, Wy. Co., Kan. 6-5
*James P. Sterritt, Sheakleyville, Mercer Co., Pa. 10-3

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 1tfd
L. E. Mercer, Lenox, Taylor Co., Iowa. 4-3
M. S. West, Flint, Genesee Co., Mich. 1-24
R. J. Osburn, Wilton Junction, Mus. Co., Ia. 3-1d

FOR SALE, FINE ENGLISH RABBITS, from 2 to 6 months old, $3 to $4 per pair. 12-2d
A. A. FRADENBURG, Port Washington, Ohio.

DADANT'S FOUNDATION FACTORY, WHOLESALE. See advertisement in another column. 3btfd

FDN MILLS 10 INCH $ 15.00
W. C. PELHAM
MAYSVILLE, KY.

FINE IMPORTED QUEENS
JUST FROM BOLOGNA, ITALY, ONLY $5.00.

Select tested queens, young and prolific, - - $3 00
Tested queens, young and prolific, - - - - - 2 50
No more "dollar" on hand this year.
9tfd J. S. TADLOCK, Luling, Caldwell Co., Texas.

FLAT-BOTTOM COMB FOUNDATION.—High side-walls, 4 to 14 square feet to the lb. Circular and samples free. J. VAN DEUSEN & SONS,
Sole Manufacturers,
4tfd Sprout Brook, Mont. Co., N. Y.

Basswood Sprouts,
FROM 1 TO 3 FEET HIGH.

$1.50 per hundred; $10.00 per thousand. All orders should be in before April 1st, 1884, to receive attention.
12½tfd HENRY WIRTH, BORODINO, N. Y.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

New York.—*Honey.*—Since our last report we find no improvement in comb honey. The general depression in all branches of mercantile business the past month, no doubt, has kept honey from moving off more rapidly; retailers supply only their wants in a hand-to-mouth way, buying only as they have need, and no large lots moving at all. Prices are quite irregular, and the tendency on nearly all grades is in buyer's favor. We quote as follows:

Fancy white-clover in 1-lb. sect's, no glass,	18 @20
Fair to good " " " " " "	16 @17
Fancy white-clover in 2-lb. sect's, glassed,	17 @17½
Fair to good " " " " "	15 @16
Fancy buckwheat " 1-lb. " no glass,	15 @16
Fancy " " 2-lb. " glassed,	13½@14
Ordinary grades, " 2-lb. "	12
Ext'd honey, best white-clover, in kegs or small bbls.,	9 @ 9½
" " " buckwheat, " "	8½@ 9

Beeswax is very scarce; and what there is in this market is selling readily at, prime yellow, from 35@36½c per lb.

McCaul & Hildreth,
Jan. 19, 1884. 80 Hudson Street, New York.

Cincinnati.—*Honey.*—Nothing new to report of the honey market since my last. Prices of extracted honey have not changed, but there is some improvement in the demand. Comb honey is in good supply, and prices are lower. A choice article in 1-lb. sections does not bring above 16c. from store. *Beeswax* in fair demand, and brings 28@32c. on arrival.

Charles F. Muth,
Jan. 22, 1884. 976 Central Ave., Cincinnati, O.

Cleveland.—*Honey.*—The honey market is a little dull just now, as usual, after the holidays, but values are unchanged. Best quality 1-lb. sections sell at 18@19c.; 2-lb. sections, 16@17c.; second quality, 12@14c., but the latter is very dull. Extracted, no sale. *Beeswax* wanted at 28@30c.

A. C. Kendel,
Jan. 22, 1884. 115 Ontario St., Cleveland, O.

Boston.—*Honey.*—Please quote our market as follows: Demand light; 1-lb. comb selling 18@20c.; 2-lb., 16@18c. Extracted, 9@11c. *Beeswax*, 35c.

Blake & Ripley,
Jan. 23, 1884. 57 Chatham St., Boston, Mass.

Milwaukee.—*Honey.*—The honey market here is very fairly supplied with a good quality of section comb, and I think better than in the seasons past. Can quote 1-lb. sections, white, 17c; 2-lb. sections, white, 16c. Extracted in liquid, put up in pails or cans, white, 10c; extracted in kegs or barrels, and candied, 8@9c. Dark-colored common honey not wanted.

A. V. Bishop,
Jan. 24, 1884. 81 & 83 Detroit St., Milwaukee, Wis.

St. Louis.—*Honey.*—Extracted honey continues dull; nominal, 7¼ to 8 cents in barrels and half-barrels; in cans, at retail, 10 cents. There is very little doing in comb honey, unless at low figures; 15 to 17 cents at retail, if in good order.

Beeswax is scarce, there being none coming in worth speaking of. A good article is worth 35 to 37½ cents. Stock is very small.

W. T. Anderson & Co.,
Jan. 26, 1884. 104 N. Third St., St. Louis, Mo.

Kansas City, Mo.—*Honey.*—Receipts liberal, and sales satisfactory. White comb, 1 and 2 lb. sections, 17@18c. I could place a few thousand pounds of fall extracted honey at 8 to 9c.

Jerome Twichell,
Jan. 22, 1884. 536 Delaware St., Kansas City, Mo.

Our friend Jerome Twichell, who gave us such good advice last month, adds the following:

> Place a sheet of stiff manilla paper between each row of sections in the case, which will prevent one comb from falling against another when it becomes loosened in the frame. When a comb breaks loose and falls against the next one it is liable to force that one out of place too. The stiff paper between will prevent all this, and save many a pound of honey which otherwise would have to be removed and put in pails, and sold as broken honey. I discovered this idea in overhauling the cases which on arrival showed any loose combs, and found that by straightening them up and putting the paper between them I could save all that were not broken or mashed. If this plan is adopted, shippers will receive very few complaints of honey in bad condition.

It seems to me that the above, although a simple matter, is a most excellent suggestion. We can furnish heavy manilla paper, cut into sheets and strips, to exactly fill our shipping-cases, any of the different sizes, at 15c per lb. I do know that a section is often spoiled, in appearance at least, by having the honey drip from some other one on to it. The above plan would almost give each section a box by itself, and would aid very materially in keeping them from getting out of place, and bruising each other.

Bees For Sale!

15 STANDS ITALIAN BEES,

All are VERY strong (having been 2 and 3 story hives last summer), plenty of good honey, to last till June; will guarantee safe arrival and healthy condition. Simplicity or VanDeusen-Nellis hive; wired frames, 1½-story hives. Price $6.50, f. o. b. cars here.

Address,—
3-5-7-9d *L. A. PORTER, Poplar Bluff, Mo.*

THE ALL-PURPOSE HIVE.

Arranged for continuous passage-ways, continuous combs, no honey-board, no bee-space, chaff and single-walled, no patent. Sample in flat. Given fdn., sections, etc. GEO. F. WILLIAMS,
2-3-4-5-6-7d New Philadelphia, Ohio.

SEEDS.

Our Illustrated Price List of Select Garden Seeds will be sent **FREE** to all applicants. Send for it, and buy your seeds direct from the growers. We will sell you no seeds but those we would be willing to plant in **our own Gardens.** Address

GRAHAM & JOHNSON, Seed Growers,
3d **REYNOLDSBURG, OHIO.**

SEND FOR PRICE LIST AND SPECIMEN BOOK OF HONEY LABELS

Geo. M. Gray & Co.

MEDINA, OHIO.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES, HONEY & HOME INTERESTS.

Vol. XII. FEB. 1, 1884. No. 3.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

NOTES FROM THE BANNER APIARY.

NO. 51.

THE OTHER SIDE OF BEE CULTURE, ONCE MORE.

FRIEND ROOT:—Away back in 1878, when I was writing my first articles for GLEANINGS, you wrote to me as follows: "Friend H., when you have had more experience with bees you may do much good by writing in that same frank, honest manner in which you have started out." Again you wrote: "The way in which you write, without fear or favor, is what especially pleases me." On page 531 of GLEANINGS for 1882, in speaking of myself, you say: "The extreme honesty and fairness of his articles, and a sincere desire to benefit his bee-keeping brothers, is what gives the chief value to his writings." Now when, in this same "frank and honest manner," "without fear or favor," in all "honesty and fairness," and with "a sincere desire to benefit my bee-keeping brothers," I criticise your wares, methods, or journal, why do you feel called upon to exclaim: "What is the matter with you lately, friend H.? You have not got astray into bad company, have you?"

You admit that you think it wrong to induce people to engage in bee-keeping, by presenting the bright side of it; yet, isn't the would-be bee-keeper, who sends for a sample copy of GLEANINGS, quite apt to receive the *impression* that bee-keeping *is* a bonanza? I do not consider you as altogether to blame for this, because people, as a general thing, will report their *successes* and say nothing of their *failures;* but if, between such reports as that of friend Dixon, on page 9, and that of friend Bliss, on page 21, could be sandwiched something like the following: "Our location is not very good for honey. It requires good bees well managed to get *any* surplus, and some have given it up as a bad job," then bee-keeping would be shown up in its true light. The above quotation is an extract from a letter received yesterday from Prof. John Phin, of Cedar Brae, Paterson, N. J. I have no objection to "big" reports, just to show the "possibilities" of bee-keeping, if they are only interspersed with "little" reports to show the "*im*possibilities." These big reports, however, are not so objectionable as the promulgation of the idea that bee culture, as a general thing, in the long run, is a *grand* success; in fact, a regular bonanza for *almost* everybody. I am aware that the books and journals do, to a certain extent, show up the "other side" of bee culture, but the manner in which they do it reminds me, in one respect, of the regulation love-story; it makes little difference how many trials, troubles, and tribulations the hero and heroine are called upon to endure, *every thing always comes out all right in the end.* Here are a few extracts that I have clipped from an address by our common good friend, the Rev. W. F. Clarke. I suppose everybody knows that it is always safe to bring any thing in that friend Clarke ever wrote or said. Here is what he did say:

"WHO SHALL KEEP BEES?

"'Everybody,' was once the current answer. I have given it myself before now. Ten years ago, in my prize poem on 'The Honey-Bee,' I pictured

'Each household of an apiary possessed.'

It was the general idea then, that, in a proper condition of society, a bee-hive out of doors would be considered as much a part of a well-regulated establishment as a sewing-machine indoors. But we have got bravely over that, and the time has now fully come for insisting upon it that only those should keep bees who are properly qualified to do so. That same law of division of labor which forbids every man being his own shoemaker, tailor, or blacksmith, prohibits every man from being his own honey-producer. This is not a congenial topic for the bee-journals, many of which are, more or less, mixed up with the supply business. Of course, the more people who start bee-keeping, the greater will be the sale of supplies.

"Bee-keeping may be justly regarded as having attained the status of a profession, or a business. In any correct view of it, it requires special natural qualifications, and a thorough education. The natural qualifications are not of much account without an education, obtained somehow or other, and the education is a downright impossibility without the natural qualifications.

"It is no doubt possible for a tyro in bee-keeping to become self-educated, in a sense. With the invaluable bee-books and excellent bee-journals that are available, the theory can easily be mastered. Then comes the practical part, and, 'aye, there's the rub.' To manage bees with an eye to profit from honey-production, is an attainment far beyond mere theory, however correct. I do not think this can be gained in any other way so quickly or so well as for the beginner to apprentice himself to some good practical bee-keeper."

I presume that I am trespassing upon your patience, and occupying valuable space; but I hope that I may be allowed to quote from an article written by our good friend Dr. C. C. Miller. I presume that it is also safe to bring any thing in that friend Miller ever wrote or said. Some one wrote to the doctor, asking for his advice in regard to engaging in bee culture, to which he publicly replied as follows:

C. C. MILLER'S ADVICE IN REGARD TO KEEPING BEES.

"It is painful to think, that to this and similar inquiries we can give no reply that we can feel sure may not mislead. To 9 out of 10 of every such persons it would be a real kindness to dissuade with all our power; while, perhaps, 1 out of 20 or 50 might be urged to embark in apistical pursuits to the abandonment of all others. But it is no easy matter to determine who may be the 20th or 50th one; hence it is a very difficult matter to give any honest advice, without an intimate acquaintance with all the circumstances of the inquirer. I have blamed the editors of our bee papers, in that the drift of the contents of such papers was to show the bright side only of bee-keeping, thus inducing into the business many not adapted to it, much to their after-regret.

"But I am not sure that the papers are at all to blame. All they can do is to publish such items of information as come within their reach, and most of us like much better to send in reports of our successes than of our failures. It is quite flattering to my vanity to report: 'I have this year commenced with 174 colonies; increased to 202, and taken over eight tons of comb honey.' Would I be as prompt to send in the following: 'This year I devoted my time exclusively to bees; commenced the season with 200 or more colonies; diminished by loss and doubling up, so that I had 162 colonies in the fall, and took, in all, 58 lbs. of honey. By means of the business I am $1000 poorer than I was a year ago?' Would the latter report be as much noticed and copied as the former? The former is a correct report of my success this year. The latter is just as correct a report of my failure two years previous, and I have no assurance that I may not have a similar report to make the coming year.

"But, suppose I hear of one who makes a success of bee-keeping, year after year, who has made thousands of dollars at it. Do I not hear of others who have made many more thousands in other pursuits? Shall I, then, give up bees and adopt the other pursuit? But you say, 'It takes capital in other business, and one can make a start with only a single colony of bees.' Yes, you can make a *start*, but you can not make a living with a single colony; and with the price of it you can also make a start in merchandise; and within a week a friend was telling me of an acquaintance in New York whose net income from merchandise the previous year was a third of a million. 'Oh, yes!' you say, 'but the merchant had years of preparation, and special talent in his line of business.'

"Now, if you think no preparation or special talent is needed to succeed with bees, you are decidedly in error. It is true, you can invest in bees to the extent of your capital, with no knowledge of the business, and so you can in merchandise, with the probability of losing in one as well as the other.

"I am quite inclined to believe that those who have been the most successful in bee culture, if they had used their ability with the same enthusiasm in any other pursuit, would not fail of success in that pursuit. In my own case, so far as financial success is concerned, I should be better off in this world's goods to-day if I had never kept bees. But, with my present views, I prefer it to any other business, because I can live in the country, be outdoors, have better health, be much of the time with my family, and do not know of any other business I like so well. There is hard work in it, in spite of all that has been said of its being nice for feeble invalids. The man who takes care of enough bees to make a living will find that he earns his bread by the sweat of his brow.

"In writing thus, my chief aim has been to show phases of the subject not generally dwelt upon."

It seems to me, friend Root, that in standing by the side of such men as the Rev. W. F. Clarke and Dr. C. C. Miller, I have *not* "got astray into bad company."

The next time I write I will try to say something upon the adulteration of sugar, and upon queen-excluding honey-boards.

I was much pleased to see that you credited J. W. Sturwold with $5.00 for his excellent article on "Making Honey Sell." Such articles as *that* are a *real* help to bee-keepers. W. Z. HUTCHINSON.

Rogersville, Mich., Jan. 7, 1884.

Old friend, I have not changed my mind a particle since the time I wrote those kind words in regard to yourself; but it seems to me *you* have been changing. If not, I humbly beg pardon. I do not want to have you ever cease from presenting the truth in all its aspects; but I do fear to have you get into a complaining sort of spirit, or to lose your enthusiasm, which has been worth so much to many of us. I fear we are in danger of misunderstanding each other. Let me illustrate: A good old friend and neighbor of mine came into the office a few evenings ago and made the remark, that with his 80-acre farm he had not for the past two years made a living, and yet he had worked hard all the time. Now, would this be a valuable statement for the agricultural papers? or would you think it best for him to get up and announce this fact at one of the farmers' institutes now being held all over our land? Would you advise him to discourage our young men from going into farming? or has farming ever been presented in too attractive colors to individuals of ordinary good common sense? I should consider bee-keeping one branch of farming. We have tried to teach that bee-men must succeed by earnest, hard work, just as farmers must succeed by hard work. Another thing, friend H. I have been pained by some remarks you have made, because they seemed almost like complaining of God's mercy and providence in having placed you just where you are to-day; and I think that our good friend C. C. Miller needs rebuking for his expression, "I should be better off in this world's goods to-day if I had never kept bees." How does friend Miller, or anybody else, know that this is the case? Had he inserted the word "probably," it would have been quite different. Another thing, he did not explain that he had a profession that yielded him quite a large salary before he began keeping bees. Had he kept on in his profession, he might have been worth more money than he is now, providing his health would have permitted it. He came to pay me a visit just about as he was thinking of giving up his profession, and made a remark something like this: "Mr. Root, I should be just happy if I could give up every thing but bees, and work with them all day long." At Toronto I reminded him of it, and he replied, "Brother Root, I am happy and thankful." And I am sure every one who saw him thought that his looks showed it. Now, friend H., ought not you and I to be happy and thankful too, right where we stand? and ought we not to be careful about saying or doing any thing that should give any one any reason to think to the contrary?

ACROSS THE OCEAN.

SOMETHING FROM FRIEND JONES HIMSELF IN REGARD TO MAILING QUEENS.

FRIEND ROOT:—I think friend Benton carries off the palm. He has mailed me, during the last season, many queens. Some of them were received before I heard of it about any other person. Friend Doolittle's devising a similar cage, only shows how great minds sometimes run in the same channel. See how nearly the late lamented Quinby agreed with father Langstroth on many important points. How often one invents something which, perhaps, was used by others long before! and until they have found this all out, they believe that they were the first to invent the new plan or system, whatever it may be; whereas some two or three or more before them may have discovered the idea.

I showed you, friend Root, and thousands of others, at the Toronto exhibition, the cages in which I received the queens from Benton. I also showed them at the convention in Flint, Mich., as well as to scores of visitors at my place during the summer.

Here let me say, that Mr. Benton has, during the past season, been doing business on his own account, I having previously sold my Beyrout, or Mt. Lebanon apiary, to Mr. Baldensperger, taking my pay in queens. I have now given my Cyprus apiary to Mr. Benton, so that I am entirely out of that speculation, which, by the way, was a losing one.

Mr. Benton's locating himself at Munich, in Germany, is a good thing for all the bee-keepers here, as any one wanting a choice imported queen, of almost any race, can send to him and get just what he wants. Queens coming from him are sure to be just what he recommends them to be, as he is exceedingly careful in selection, managment, shipping, etc., and I hope he will receive the patronage he deserves, as he can not afford to stay there without a liberal patronage from America. And even with that, I fear his expenses will leave him very little for his labor, at the prices he is asking. The course he is pursuing is likely to test the mailing business. The mailing of queens seemed to be one of Mr. Benton's hobbies. Many hours we spent in the East, talking over the matter; but the postoffice regulations seemed always to stand in the way. Mr. Benton is very enthusiastic in the business, so that, if he does not make it a success, I shall have poor hopes of any one else succeeding.

Let me say to those sending him boxes of bees, not to send any correspondence with them, for fear they may share the same fate as mine. Let the correspondence be sent in the regular way. I received a large number of Syrian queens from Mr. Baldensperger last season. They were sent to Mr. Benton, thence to me. They were packed in boxes about 6 inches square, with two combs in each box, supplied with sugar and water, similar to that in his mailing-cages. There was a very striking difference in the loss of bees that accompanied the queens. In some of the boxes, Mr. Benton had put all fresh bees, and in others a part were fresh. I found a much larger proportion of the blacks dead than of the others, on arrival. In the boxes that had part black and part Syrian (though the Syrians came all the way from Beyrout to Munich), I found a larger proportion of the blacks dead. This will illustrate the superiority of the yellow race for shipping purposes.

I will reply to friend Doolittle's article soon, and you need not fear that we shall fall out; because if we can not agree, we will agree to disagree; but no doubt when all is known on the matter, friend Doolittle will be pleased with the result.

Beeton, Ont., Jan. 18, 1884. D. A. JONES.

Many thanks, friend Jones, for your kind letter. I am astonished to hear you say you showed *me* the cages that brought queens across the ocean alive. Now, either you or I am absent-minded. Are you sure it was not somebody else to whom you showed these cages? One reason why I can not think it was I, is because I was on the alert for that very thing, and I do remember asking you how Mr. Benton got queens to New York for such a very moderate price, and even single queens at that. No wonder some of us forgot something, or overlooked a few matters, with the din and hurry and bustle of the multitude of important matters coming up constantly. It seemed as though one wanted more sense than ordinarily falls to the lot of man, and more brains than any one man can carry, to consider them all at once. However, I am very glad that queens do come across the ocean, and the fact is enough to make us thankful, without discussing very much to whom the credit belongs.

AN IMPROVEMENT SUGGESTED IN REGARD TO THE BEE-ENTRANCE GUARDS.

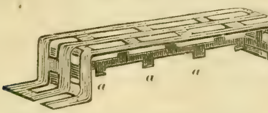
A SIMPLE MATTER, YET DOUTLESS AN IMPORTANT ONE.

I BOUGHT of you last spring some entrance-guards for excluding drones. They worked well so far, but I have one objection against them. When a bee laden with pollen crawls through the openings, the sharp edges strip a part of the pollen from the legs. It happened that one guard was cut directly at the lower edge of the opening, and I observed that the bees crawled through the lower opening without losing any pollen. I believe if the guards could be cut differently it would be of great advantage. I wish to use this guard particularly for the purpose of keeping the queen in swarming time, as I am not always present then. It works well, if fastened to the entrance. But to make it fit for all purposes, it would be nice to have an opening in the middle, which can be shut by means of a little gate. By opening this gate over night, the bees would be able to carry dead bees and drones out of the hives. Also it would be of great advantage, as one can control the pure mating of the queens, by shutting the little gate of such hives as contain impure drones.

Not every bee-keeper can watch the swarms every time and all day long; and by aid of this instrument he can be sure that no swarm will go to the woods, but will stay till one is ready to hive it. Besides, there is another thing: It is not necessary to let the swarm out and cluster in a tree 20 feet high.

Harvard, Ill., Jan. 21, 1884. CHARLES FAUST.

The improvement will be readily understood by the cut below. In making these guards, our tinners have cut them up without any special regard to where the openings come. Now, in cutting the sheet, if the part forming the lower edge is cut in such a way as to leave the metal as at *a*, *a*, *a*, we shall have it as our friend prefers it—that is, the bees can enter with loads of pollen, and walk right along on the bottom-board. At the same time, a drone could not get out any more than he could get through the openings. While this would control drones without any trouble, it seems to me the comparatively uneven surface of the board forming the bottom of the hive or entrance would hardly be accurate enough. If we expected the arrangement to confine queens, it seems to me it would be better to rest on a sheet of zinc, or some other hard substance, exactly level. Friend B. also gives some very good reasons for having an opening made in this drone-guard, to be opened or closed at pleasure. Indeed, the bees would find it inconvenient to drag rubbish out of the hive at night with this obstruction in the way, while it might as well be removed at night as not. Now, instead of the little gates he suggests, I would have the drone-guard hinged at one end, and held down firmly by a button at either end. It can then be easily raised so as to give a free passage at all times and seasons, when no guard over the entrance is needed. I should dislike to have any thing over the entrance of the hives permanently, that hindered the bees from carrying out rubbish, or dislodged the pollen while going in.



MOVING BEES TO CATCH BASSWOOD BLOOM.

A LOCALITY SUGGESTED, AND AN INVITATION EXTENDED.

FRIEND ROOT:—JUVENILE is at hand, and as full of good things as an egg is of meat. I have just read R. Stehle's article on page 44, with your remarks, and the plan is so feasible to me that I pen you a few thoughts.

About 12 miles from here there is what is called the "Bee's Nest." It is a tract of timber in the valley, and on the banks of the Muskegon River, that, from good authority, literally swarms with bee-trees. I have been there, and the timber is thickly interspersed with basswood, both in the valley and on the northern bank — making, you see, a long flow of basswood honey. From the enormous amounts that have been taken from trees, and the results of some box hives that have been kept in the vicinity, I know it to be a good place to get a good flow of basswood honey; and as soon as I feel I am the least overstocked here, I shall locate an apiary in the vicinity permanently.

Now, if Messrs. Stehle and Knowles, or other persons in the more southern latitudes, want to try the experiment, they can follow the M. S. & L. S. R. R. to Allegan, then take the Chicago & Western Michigan to Muskegon, and then about 12 miles over a sandy and easy road to the place I mention. I have friends in the vicinity, and could arrange to have teams meet the train the same day, and have them ready for work in the morning. I never knew the basswood to open here earlier than July 5, and last year it was about the 25th; but still there was no space between white clover and the basswood bloom; in fact, my bees worked on clover after basswood had ceased. If there is any thing I can do, I am at the service of the friends.

Fremont, Mich., Jan., 1884. GEO. E. HILTON.

Many thanks to you for your kind information, friend H. If the basswood timber is not all cut off for making honey-boxes, it seems to me I can look forward and almost see the time when we shall have special localities dotted all over our nation, where bee-keepers with their hives "do congregate," in time for the opening bloom. They would be like the shepherds of olden time, driving their flocks to grassy localities, and I hope nothing but peace and good will may be found among them. Only a very few seasons would be necessary to determine where the great honey-flows are located, and then after that we shall all know where to go. There is this, unfortunately, however: Basswood is no exception to the general rule of poor seasons now and then. Now, where basswood is thickest do they ever have seasons when it yields absolutely no honey? Perhaps friend Doolittle can tell us.

THE DREAD SCOURGE, FOUL BROOD.

A FRIEND IN TROUBLE.

FRIEND ROOT:—I am going to write to you for advice. From a paper published in our county, (last week's issue), I clipped the inclosed article:

> At the State Bee-Keepers' Association held on the 9th of this month at Lincoln, the question of foul brood and its introduction into the apiaries of the State was very fully discussed and we would like right here to put every bee-keeper on his guard against this dread disease. Foul brood is epidemic, and when once introduced into an apiary it is almost sure death to every colony with which it comes in contact, and there are many ways in which the disease may be carried to every colony in the neighborhood. The disease attacks the grub when one-half or two-thirds grown, and is readily detected by the grub turning to a dark coffee-colored mass in the cell. Some diseased colonies were brought into this county from Fillmore Co. by Jos. Saylor, and sold to different parties, and we would suggest to those parties having such bees in their possession that they look after them very closely in the spring, and if they show any signs of disease the comb should be melted, and the hives, frames, and fixtures burned.

My nearest neighbor (only about one hundred yards distant) bought one of the "Jos. Saylor" colonies; and late last fall, when they were almost all dead, my bees robbed that colony. I did not know that they were at it until they had almost cleaned the combs, and I never knew until I saw the inclosed article what was the matter with my neighbor's bees. I am an A B C in the bee business. I bought one colony one year ago last April; have increased to 9 strong and 4 weak colonies. What am I to do? Can they be cured, or must I burn every thing? I am a poor man, and it will be a big loss to me if I have to burn them. How soon would it be safe to begin again on the same ground? If you have the time to spare, please write to me. Any information you can give me will be gladly received. J. O. BOGGS.

Endicott, Jefferson Co., Neb., Jan. 21, 1884.

As we have never had a case of foul brood of our own, and never saw a hive really infected with it, I do not know how to advise in the matter, but would ask friend Muth to please tell our unfortunate brother what is best to do. If the colonies are few, and he can take the time, it seems to me that, with comb fdn., he might save his bees, destroying only the combs that were badly diseased.

THE SYRIANS AND THEIR TEMPER.

ARE THEY GENTLE, OR NOT?

MR. ROOT:—At the Northwestern Convention in Chicago last fall I seemed to be the only one who had gentle Syrian bees. Many of the members present had tried them, and all had found them cross. I have seen a number of articles on the subject since, and find that the majority pronounce the Syrians crosser than the Italians.

Now, my experience has been different. From the experience I have had with them — not very extended, it is true — I formed a high opinion of them, and one of the best of the good points on which I based this opinion was their extreme gentleness. As I said at the convention, I have found them as gentle as the gentlest Italians, and much more so than the average. In fact, they were the most peaceable bees in my apiary, although it is almost wholly composed of three-banded Italians of several strains, ranging from the dark, leather-colored, to the very light ones.

Now the question rises, Have I pure Syrians? I got my first queen of you (a select tested one), and was informed in your notification of shipment that "Mr. Harrington considered her a very nice one."

Now, what points are considered in the selection of these queens? Do you endeavor to keep them like the original imported stock, or do you try to have "good bees," regardless of purity of race? How far is neighbor H.'s apiary from other bees? Does he breed from an imported queen?

I am very well satisfied with the bees as they are, but I want to know what to call them—whether pure Syrians or Syrio-Italians.

In conclusion, I will say that I find enough difference between them and Italians to be sure that there is at least a large share of Syrian blood in them. I consider them superior in several respects; and unless they disappoint my expectations next season, another year will find me with a full apiary of Syrians or Syrio-Italians. J. A. GREEN, 140-182.

Dayton, La Salle Co., Ill., Jan. 7, 1884.

Your queen was probably a cross between the Syrians and the Italians, friend Green. Neighbor H. has an apiary about 1½ miles from any other bees, and rears from a queen purchased of D. A. Jones; but as his bees are a good deal mixed with Italians, the probabilities are that his queens meet Italian drones. I should say they are properly Syrio-Italians. Glad to hear a good report from you.

TESTING THE PURITY OF BEESWAX.

A TIMELY SUGGESTION FROM OUR GOOD FRIENDS DADANT & SON.

FRIEND ROOT:—We have just hit upon a very easy plan for testing the purity of wax, and will give it to you, to be published in GLEANINGS, if it is worth publishing. Dilute water and alcohol in a vial about three-fourths water and one-fourth alcohol. Then take a small piece of wax, which *you know to be pure* (you or any bee-keeper can easily find such); put it in the vial, and add alcohol until the specific gravity of the mixture is the same as that of the wax. The wax will then go to the bottom very slowly. Your testing apparatus is now ready. If you have wax with tallow or paraffine, and put it in the mixture, it will remain at the top, its specific gravity being less than that of the mixture. If it contains rosin, on the other hand, it will go to the bottom quickly, being heavier than the mixture. In testing, you should take care that the sample contains no air, as this would change its specific weight. In testing foundation, therefore, the sample should be thoroughly melted before testing, so as to exclude all air from the inside of the sample.

This test is cheap and conclusive. There may be a small difference between one sample of wax and another; but it is not so as to exclude the clear discovery of tallow or paraffine, which will float beautifully. We hope this will be of service to many.

CHAS. DADANT & SON.

Hamilton, Ill., Jan. 24, 1884.

I believe, friends D., you have hit upon something quite practicable. Of course, the test is only for specific gravity; but if the wax chews all right, tastes all right, and has the right specific gravity, I think we are pretty safe. I can always detect rosin by the taste, very quickly; and chewing will almost always tell the presence of either rosin or tallow, because it makes it form chewing-gum, like grafting-wax. Now, you see if they should put in rosin and tallow so as to balance each other, and thus bring the specific gravity right, we could readily get at it by the taste. The worst swindle we ever got into was some wax that was adulterated with sand; and as it was put into the bin with several other lots, we were at a loss to know where to fix the swindle. When we melted it, the sand went to the bottom of the melting-tank, so it did not hurt the fdn. any. But there was enough of it to make a pretty sad pressure on our pocket-book.

HOLY-LANDS CROSSED WITH ITALIANS

SOME VALUABLE FACTS FROM PRACTICAL EXPERIENCE.

MUCH has been said for and against the Holy-Lands; but as mine are a cross between Holy-Lands and Italians, I will give you their good and bad qualities, as has been my experience with them the past season. They build up better in the spring, and with fewer bees, than the Italians; they keep the combs well filled with brood at the commencement of the honey season, which is very important; they commence working in the sections sooner than the Italians. This is probably due to their having the combs filled with brood to the top-bar. They build nicer and straighter combs than the Italians, and are not so particular about crowding every little space full of comb. This I have especially noticed in sections, if they are not filled full of foundation. They will often round off the edges of the comb, and scarcely fasten them to the sections at all, except at the top, especially when honey is not coming in fast, thus making them unsafe for rough handling; but by filling the sections complete with fdn., this may be overcome. They do not bridge their combs together, and attach pieces of comb between the lower and upper story, as do the Italians. I have had colonies that put scarcely any comb or glue between the lower and upper frames, and you could lift them out as nicely as you please; while some Italians would have them bridged together so that you would have to pry loose every frame. They can not be controlled so well in swarming-time as the Italians, although I do not think they are as liable to swarm as the Italians; but it is next to impossible to cut out all the queen-cells after they have swarmed, and the young queens are so vigorous that it is unsafe to throw these cells around carelessly; for if nearly ready to hatch, they will often gnaw out and crawl into other hives; and as these young queens are often accepted, might not this be the way some strange "queen cases" appear? I have thrown them on the grass, and had them hatch and crawl into a hive.

SEPARATORS, ETC.

As there are still some who claim that wooden separators are superior to tin, I will give my experience. I find that separators made of wood are not what I want. First, they will warp and become crooked, and can not be fastened as securely as tin. Second, they are liable to split and break when pried apart. Third, the bees will attach propolis and comb to them when they will not to tin. I have used both kinds on the same hive, and find they work just as quickly in the tin as wooden ones. If you have them where the mice can get at them, they will gnaw them up badly. In regard to dispensing with them entirely, I do not believe it is a success in securing nice comb honey, unless in some different way from the ordinary one in securing comb honey. It might do not to use any, by having narrow sections filled with foundation, and having the bees commence in all of them at one time. Even then I do not think they could be taken out as fast as filled, and replaced with empty ones, so as to secure straight combs; and by carrying some partly filled to colonies that refuse to start in the sections, you would almost be sure to get thick and thin combs.

FERTILE WORKERS AMONG THE HOLY-LANDS.

If you happen to cut out all the queen-cells, and leave them without material to rear one, you will in a short time have fertile workers. I will tell you a case of this kind which occurred to me last summer:

I made it a rule last summer to cut out queen-cells, to prevent after-swarming; but one colony, in some way, was left without cells or material to rear a queen. When it was time to examine those colonies which had cast a swarm, to see if the young queen was fertilized, I found eggs in several combs, and queen-cells started, which contained eggs. I looked for the queen, but could not find any, yet I was quite sure they had one, for there was nothing unnatural, except those queen-cells; and as these are of frequent occurrence during the swarming, I was yet not sure that they were queenless, for there were plenty of eggs in the combs; and in due time those queen-cells were capped over, and looked like any other natural cells. But a queen failed to hatch, and those eggs in the worker cells hatched out nothing but drones. Then I was sure that fertile workers did the mischief, and the next thing in order was to get rid of these pests. I tried introducing queens, but it was of no use. I moved the hive away, and let the bees return, but this would not work. Finally robbers began their mischief on this colony, and the best thing I could do was to give them combs of brood and a queen from another colony, and close the hive for a short time, to keep out robbers. This ended the mischief, and in a short time it was a prosperous colony.

You say, in the A B C book, that the eggs of a fertile worker are scattered around in the cells, sometimes several in one cell, and that they sometimes build queen-cells over this drone larvæ; but I think this was an exception to the rule, for the eggs, I think, were deposited in the queen-cells, although some contained several eggs, and were of different sizes; and the eggs which were deposited in the worker-cells were not scattered around promiscuously, some in worker and some in drone cells, but were deposited just about as a queen would.

The Holy-Lands crossed with Italians are some crosser than the pure Italians, depending on the amount of Holy-Land blood. H. J. SCHROCK.

Goshen, Ind., Jan. 25, 1884.

MORE ABOUT THE BAKER BEES.

ALSO SOME GENERAL REMARKS RELATIVE TO A STRAIN OF BEES THAT WILL STAND OUR WINTERS WITHOUT SPECIAL PROTECTION.

[See pages 741, Dec. 1, and 18, Jan. 1.]

FRIEND ROOT:—During the past summer I have been gathering up some bees, preparatory to making a specialty of apiculture, and, of course, I wanted some Italians, so that I could Italianize what I already had. Well, I was recommended to a Mr. Baker as a bee-keeper who had pure Italians, and I went there and found them as represented, and I purchased a choice colony of him, and afterward removed them home. Well, when Mr. Robbins' article came out in December number of GLEANINGS, I, of course, was deeply interested, and resolved to investigate the matter for myself.

I put the matter off until I received the January number of GLEANINGS also, and in that a second article from Mr. Robbins. But yesterday I took both numbers of GLEANINGS referred to above, and drove over to Mr. Baker's, a distance of about 12 miles, and now I will give the result of my investigation.

Mr. Baker did go west from VanBuren, as stated in Mr. Robbins' article, but not with the intention of staying there permanently, and has since returned. When he went west he did not sell his bees, but left them in care of his brother. After he had been in the West some time he wrote to his brother to sell the bees, all but 4 or 5 of the best stocks, and his brother put them up at a sale, and sold them as directed; and Mr. Baird, instead of getting the bees direct from the owner, got them at this sale. Mr. Baker says he is acquainted with all the parties mentioned in Mr. Robbins' article, and is fully satisfied the bees mentioned are of his particular strain.

WHAT MR. BAKER HAS TO SAY ABOUT THEM.

Well, he has never lost any bees yet in wintering, except one, and that one the combs broke down, and when a warm day came they swarmed out and left. He has noticed that his bees, when flying in and out, go very rapidly— some stocks more so than others. His bees are not as bright as some he has seen; but when the queens are purely mated, the three bands of yellow are well defined (all queens not so mated he destroyed); the queens are rather dark. As to their having a waspish appearance, he had nothing to say, nor did I ever notice it, but will observe in regard to that when warm weather comes.

He claims they are very prolific. As to their honey-gathering qualities, I will try to tell that in a few words. I want to say about Mr. Baker personally, that he has never read a standard work on apiculture. All he knows about bees he claims to have learned by actual experience. He owns a farm, and attends to his bees in the few spare moments he can snatch from his farm work. He has one queen that produces now and then a bee not marked as a pure Italian; the remainder, between 20 and 30 stocks, are all marked as pure Italians, and this with an apiary of badly hybridized bees within about 60 rods of him, containing about 75 colonies. As Mr. Baker never read any of the bee publications, of course he knew nothing in regard to modern applications for obtaining surplus honey, and he has worked more for increase, as he could always sell stocks of bees to a good advantage. He never worked so much for surplus; but after all, the return from this source was satisfactory. He says he does not fear the wintering problem. He is feeding one colony now that was robbed in the fall; has fed them every day this winter. He simply raises the cover, and pours some syrup down over them. He showed me these bees yesterday, and they were lively, bright, and healthy. They stand, as do all the rest of his bees, unprotected on their summer stands, except a kind of shed over them.

JACOB GUISINGER.

Stanley, Ohio, Jan. 15, 1884.

I have given the above, principally that we may get a fair view of the case, and I trust the friends who have written in regard to these bees will not get into any controversy in the matter. While I am pretty well satisfied that an apiary of bees where spring dwindling has never been known is less liable to be affected that way, I can hardly believe this apiary of 20 or 30 colonies has any special merit in the direction mentioned, over Italians slightly mixed with common bees in general. It is not very unusual to find whole apiaries that winter safely, winter after winter, and that without very much care. The principal point before us is this: These bees were never bred with any special object in view. Whatever remarkable trait they may possess came about accidentally. Other bees—blacks and hybrids—are roundabout in the neighborhood, and thus crossed and re-crossed, as bees usually are. If there were one or two colonies found in the apiary having remarkable powers of endurance, it would be nothing very remarkable; but it seems to me it would be very remarkable indeed that the whole of them should be greatly superior to bees in the vicinity, or, if you choose, to bees in general. I know I hurt a good many people's feelings by the cautious way in which I advise acting in regard to these new things that come up; but a great and growing class of learners are depending upon me a good deal for advice; and while I am sorry to discourage or throw cold water on any new project, still I feel it would be a serious thing for me to let any individual interest stand in the way of guiding these young friends safely and wisely.

A VISIT TO SOME OF THE CONVENTIONS IN THE SOUTH.

ALSO MENTION OF SOME OF OUR PROMINENT SOUTHERN BEE-MEN.

I STARTED with 13 colonies; increased to 30 by artificial swarming; but lost nearly all the white-clover blossom by dividing at the wrong time; secured about 300 lbs. extracted honey from heart's-ease. Buckwheat was a failure this season. We did not get a drop of rain from Aug. 15 to Oct. 1. The bees worked on the leaves of the oak during September, early in the morning; but what they got from leaves I could not say. I was not so fortunate as you and friend Cork, of Niagara, to have a ladder to get up the tree.

Taking the season all together, it was not up to the average. I visited Louisville last August to attend the exposition and the Kentucky Bee-Keepers' Convention. While there I met friend Hart, who gave quite a description of Florida and her honey resources. He was listened to very attentively by all the bee-keepers, as a great many of them are thinking about moving there. Friend Muth gave an account of his experience in handling honey, and gave some valuable points to bee-keepers. The bee-keepers of Kentucky gave the visiting bee-men a cordial reception, and made things pleasant for them during their short stay. They had a very nice display of honey and bees, and friend Wilson had a nice display of Italian queens. The managers were lacking in one thing, and that was the small amount of honey they had on exhibition. As friend Muth remarked, they should have had a stack of honey as high as the ceiling.

I went from Louisville to Cincinnati, and called on friend Muth. He was not at home, but one of his clerks showed me his store and bees, and then fetched me down in his cellar, and there I saw honey—barrels of it piled four tiers high. I came to the conclusion that friend Muth does a very large business in extracted honey, and has a large supply of hives and apiarian implements.

Bee-keeping is making great headway around here. We had a fine display of bees, honey, and apiarian implements at our annual St. Louis Fair. There were six bee-keepers represented this year, whereas at the fair previous there were but two. Friend Flanagan had a grand display of bees, honey, and apiarian implements, and took first premium for the best display of apiarian implements. Messrs. Buck & Swallow had a very nice display also, and took first premium for the best honey-knife. It is a model knife, and serves both for cutting and uncapping. It is their own make. They took second premium for apiarian implements. Friend Little took first premium for best display of Italian bees.

RICHARD GRINSELL.

Baden, Mo., Jan. 16, 1884.

The "Growlery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

A. I. ROOT:—On the 18th of December I received a postal from you, in which you said, "We send you catalogue and price list, etc." I suppose you meant to say, "We will send when it suits our convenience," and from past experience I have found it requires a good deal of patience to wait your time. If you have sent me one I have not received it; and if it suits your convenience, and you see proper, you may send me one. JOHN H. WOMELSDORF.

Huntingdon, Pa., Jan. 14, 1884.

Now, friend W., that is rather rough on a body. We have not only been laboring to get up that price list, but we have been laboring to find people like yourself who want them; and I have also been laboring with our clerks to say, in writing to a customer, "We *have* sent you a price list." And then I have labored with them again on the importance of being always truthful; do not, under any circumstances, tell anybody you have done a thing when you simply mean you are *going* to do it. If you let yourselves get into a way of taking even that little liberty in speech, you will soon get to telling downright lies. I should not like to say right here, before present company, that I know by experience; but I will say this: I do know of business firms who used to say goods were sent, only to pacify customers, when they meant they were going to send them the very next thing. Do you know what became of them? They soon failed in business, and I know of no exception to this rule. Our clerks are doing better, friend W., and I do not believe you will ever have any more such experience.

While I am about it, friends, there is another thing I want to talk about. The trade in the A B C books has got to be a pretty big business, and a great many people hear of the book, and send for it without stating definitely whether they want a cloth-covered book, price $1.25, by mail, or only a paper-covered book, price $1 00, by mail. It is true, we can generally guess by the amount of money; but sometimes, or, in fact, quite often, the order comes with money for other goods, and our friend does not mention the price at all. Which should we send him? If we send a paper cover, he often gets offended, and sends it back, saying, "Mr. Root, you ought to have known I did not want an expensive book like that in paper covers, to get dog's-eared and torn up in a little while." If we sent cloth, the beauty of the cover and binding generally makes them satisfied, even if they did mean to have a cheaper one. But there are exceptions even to this, as the following will show:

Mr. Root:—Your card calling for 25 cents due on A B C is at hand; and in reply I will say that I sent you one dollar for the book, and it seemed to me then, and does yet, that it required but little "horse sense" to know that I would not ask for credit, and only wanted my money's worth, and this is especially the case as you had the book for that price. Send me a dollar A B C, and 15 cents for return postage, and I will return the A B C I first received.

New Richmond, Wis., Jan. 10. F. N. BLACKMAN.

Now you see, friends, just one little word in ordering would make it all plain and pleasant. When you order an A B C book just say cloth or paper, as the case may be.

Here is another friend who got offended in some way. And, by the way, he makes the first complaint about the A B C book that I think I ever got; that is, the first one who said he was disappointed in the book. We have had thousands of commendations, but only one that I know of the other way.

I thought the amount I sent was sufficient indication of the style of book I wanted. I don't want to invest any more in it. You can make the exchange if you desire it, or send back the money, and I'll send you the book, or let it stand as it is, just as you choose. I am disappointed in the book. It seems to be mainly advertisements of Mr. So-and-So's planer, Mr. So-and-So's honey-pail, and Mr. Somebody's something else.

INSLEE DEADERICK.

Louisville, Tenn., Dec. 31, 1883.

To be sure, friend D., the A B C book tells about other folks' things. You didn't suppose I was smart enough to make every thing, or tell how to do it, that pertains to bee culture, did you? Almost everybody who buys the A B C book wants to know where he can get the things mentioned therein; therefore I tell about Mr. So-

and-So's planer, and Mr. T'other man's honey-pail, because he got up a better one than I did. And then, again, I tell about Mr. Somebody's something else, because I thought it was a good thing, and you would like to know about it.

MORE ABOUT "THE OTHER SIDE."

FRIEND ROOT:--While I entertain the highest respect for your correspondents in general, and W. Z. H. in particular, I can not quite agree with what he says in GLEANINGS, page 5, about bees being kept only by those making it a specialty. I am well aware, however, that those who devote their whole time and attention to the business are most likely to attain to the highest success. But suppose we who have families depending on our daily effort, having given it our whole attention, *should* fail in some seasons —like the past, in many localities, for instance. All bee-keepers can not make money at queen-rearing, for there would be no customers. Neither have all of us the ability to gain a living with the pen. I know it may be said that no person should make a specialty of any thing, especially bee-keeping, until he has tested his ability to master all its difficulties, and knows that he can succeed. But I question if bee culture is not, all things considered, more precarious than other rural pursuits; and for this reason, if none other, is it not desirable to combine it with some other occupation?

Friend Hutchinson says: "The farmer was not long in discovering that he could buy his honey more cheaply than he could produce it; and, like a sensible man, he dropped bee-keeping." Now, my own experience in bee-keeping in connection with farming, and my acquaintance with others who have had fair success in the two pursuits, leads me to entertain a directly contrary opinion; and I shall have to own that some of us, at least, have yet to make this discovery. And in this section the number of farmers that buy honey to use on their tables is so few as to be hardly worth mentioning. Of course, the two pursuits will need our attention at the same time, and we will sometimes feel as if we ought to be in two places at once; but if we are up and doing, getting every thing ready for both farm and apiary, that can be done beforehand, during the leisure of winter, we may, by thorough and intelligent culture, not only be sure of the substantial products of the farm for our daily sustenance, but also the luxuries of the garden, apiary (*and poultry-yard*); and in favorable localities and seasons, a fair surplus from each, depending, of course, upon the amount of energy we each possess, to take to market.

Of course, if *every* farmer kept bees, the country would soon be overstocked; and it is equally true, that if the bees now kept by specialists were spread more generally among the farmers, the danger from this cause would be much less. Besides, the undisputed facilities which small farms afford for successful bee culture, and the benefits arising from the fecundation of the various flowers by the industrious workers, are not to be overlooked in this connection. Neither should farmers, those true lovers of nature, be deprived of the pleasure which bee-keeping affords; the drawing nearer, through a knowledge of its mysteries, to that Creator who made all for one harmonious whole, and each for the other's good. L. M. ROGERS.

Oneida Valley, N. Y.

ANOTHER REPORT FROM THE PERFORATED ZINC HONEY-BOARDS.

KEEPING THE QUEEN DOWN STAIRS, AND GETTING ALL THE BEES UP STAIRS; A SUCCESS.

I USED the perforated zinc on 28 hives run for extracted honey; most of these were very strong colonies, and were tiered up three stories high in Simplicity hives. In some I confined the queen to the lower hive, while in other hives I gave her the range of two stories. In only two cases I failed to keep the queen below, and in one of these I found the fault to be in the way I had arranged the sheet, and not in the sheet itself; in the other I am not sure how the queen got above. In both cases she did not get back until I shook the bees off the combs and let her run in at the entrance. I kept good prolific queens in one story, with the hive full of bees from below to the third story. At the same time I had brood in all three stories when the zinc sheets were not used.

In an apiary, run for extracted honey, they may not be desirable. On this point I am not decided. If you wish to get below to cut out cells, get brood, etc., you have the sheet to remove and replace, which is some bother. It gets kinked some, and there are a few little pieces of wax to scrape off before it lies down smoothly on the frames. I got them to keep the queen out of the combs until they could be drawn out the desired thickness, and have the satisfaction of fairly beating them. But still I am inclined to think it would be as well to give the queen a free range — have all frames filled with worker comb just a little thicker than the frame, for convenience in uncapping. Your combs below will have no honey in them, as the queen completely monopolizes them, and the honey is shoved up stairs. This will suit those who wish to feed their bees on sugar, to take the place of natural stores. It takes but a moment for the workers to pass through the openings in the sheet, so I see no objection to its use, except its cost, and the time required to remove and replace, in order to get at the brood when you wish to. J. B. COLTON.

Waverly, Iowa, Jan., 1884.

Many thanks, friend C., for your report. I am especially glad to get it, because I felt a little bad after having sold as many as we have, to see such unfavorable reports in regard to them as we have had once or twice of late. We shall have machinery arranged so as to perforate the zinc ourselves, and this will very materially reduce the cost. In regard to trouble in removing, is it more than to remove any kind of honey-boards? I presume that rubbing the sheets with a cloth dipped in some kind of nice oil that would not be offensive to the bees would very materially lessen the building of comb on them by the bees. Perhaps our finest sewing-machine oil might answer well. If we could reduce the chance to about the same it is of their building on enamel sheets, it would be quite a gain; and besides, if they did build, the wax would slip off with very little urging.

NEW THEORIES.

HAVE BEES THE POWER OF CHANGING THE WORKER EGG SO THAT IT WILL PRODUCE A DRONE?

PROPOSITION IX., Dzierzon Theory: "All eggs germinated in the ovary of the queen develop as males, unless impregnated by the male sperm while passing the mouth of the seminal sac, or spermatheca, when descending the oviduct. If they be thus impregnated in their downward passage (which impregnation the queen can effect or omit at pleasure), they develop as females." When this theory was first promulgated by the venerable father, it no doubt seemed as ridiculous as the theory I shall soon notice, and could not at first be believed; but time has shown this great bee-master was getting at the facts as they really existed, and you will find many bee-keepers now who deny the facts set forth in father Dzierzon's propositions, so beautifully demonstrated by the arguments of the Baron of Berlepsch. I would state the proposition thus: "All eggs germinated in the ovary of the queen are coated over with a thin mucous substance, which receives the impregnating male sperm while passing the mouth of the seminal sac, or spermatheca, when descending the oviduct, and said male sperm can be removed by the nurse bees after the eggs are deposited in the worker cells, and the sex of the egg changed." What! do you intend to throw aside all established theories promulgated by Huber, Dzierzon, Profs. Von Siebold and Leuckart, Baron of Berlepsch, and a host of learned bee-masters of the Old and New World? No, my friends; I do not doubt one syllable of what these learned scientific bee-masters set forth, but only wish to carry their researches a little further, if you please, making new discoveries in older fields. What if I state that bees can change the sex of eggs at pleasure? Such is the case, and I think I can truthfully assert it to be true—as much so as a drone is the "son of his mamma." Understand me, friends, that a drone egg (that is, an unfertilized egg) will produce a drone (male) always, and can not be changed by the nurse bees, it matters not how much extra tinkering they may do; but on the other hand, it is a simple operation for them to remove the male sperm from the worker egg just after the egg is laid, or just before the egg hatches. I claim, brother bee-keepers, that if the egg is impregnated as it passes the mouth of the seminal sac when descending the oviduct, as father Dzierzon asserts, the male sperm is compelled to lodge in this mucous covering of the egg, and can be removed by the bees when the welfare of the colony demands it.

Now for the facts in the case. I suspected this was the case in 1879, but was not positive about it until 1882, and this year. To test the matter thoroughly, last August I took two new worker combs built out on Given foundation in wired frames, and inserted them in the center of my Holy-Land colony, containing one of D. A. Jones's best queens, and placed a Mason ½-gal. fruit-jar feeder filled with syrup immediately over the frames, to get the bees to cluster on them. Four days after I took them out and found them about half filled with eggs, equally on each side. I cut a hole about one inch in diameter near the center of the eggs in one of the combs. In the other comb near the center, I scraped off a dozen or more cells to the base, or fdn., and I put these combs in a strong queenless colony that had no laying queen for two weeks, and the virgin queen removed three days beforehand. I examined these combs every day until the brood was all capped around the hole; eight queen-cells were drawn out, and all hatched nice queens; and near these cells a dozen or more (I did not count them) cells drawn out for drones, from which I saw drones hatch. On comb No. 2, not a single drone-cell, and on the comb containing the queen-cells, the drone brood was on the same side of the comb on which were the queen-cells, while the other side showed solid worker brood. I tried this experiment last year twice; and several times this year, and I invariably find some drone-cells near the queen-cells; and to be certain, I tried the experiment in a hive where there were drones, and the result was all worker brood, which proved to my mind that bees have the power to change the sex of eggs when the welfare of the colony demands it. It was hardly possible that the bees removed the eggs of the worker bee and deposited one in its place, for there was only two days' difference in the capping of the drone and worker cells.

I could mention several writers to GLEANINGS, the *A. B. J.*, and other bee-journals, who have surmised the same thing, but I do not know how far they carried their experiments.

In conclusion, let me introduce two propositions, and I invite all bee-keepers to watch closely and see if I am not right.

1. Bees change the sex (female to male only) of eggs, whenever the economy of the colony requires it.
2. Laying workers are found in nearly all colonies; hence, a colony with a *pure* mismated queen will contain hybrid drones. B. F. CARROLL.

Dresden, Tex., Nov. 24, 1883.

Friend C., you may be correct in your surmises. I confess, that from the experiments I have made, and those given by others, it looks quite probable. But your proposition, that laying workers are found in nearly all colonies, I should not agree to. For some time you have been working mostly with Cyprians and Holy-Land bees, if I am correct; and it may be that laying workers are found in nearly all colonies of the above races; but I never saw a laying worker in any colony containing a laying queen, until I saw these new races. If you mean that there are bees in nearly every colony containing workers that may *become* laying workers, then I agree with you. I do not think we are in very much danger, however, of having our bees hybridized by drones produced by laying workers.

WHY BEE KEEPING DOESN'T PAY.

ALSO SOMETHING ABOUT HYBRIDS VS. ITALIANS.

I BEGAN about six years ago, not knowing any thing about bees. I managed after the old way, or it was, rather, letting the bees manage for themselves; at any rate, at the end of about two years they all came up missing. People said bees didn't pay any more; they did no good, and it was no use to bother with them. But I wasn't satisfied; and having seen your advertisement in a newspaper about bees, I sent for your price list, and then I sent for your A B C, and I began to see why bee-keeping didn't pay. I saw that we were away back in the past, and almost lost in the mist of old-fogyism and superstition; and by studying A B C, and reading GLEANINGS, I soon passed by old-fogyism and superstition, and I am now slowly ascending toward the hill-tops of scientific bee-keeping.

After studying A B C, I began anew, by buying some bees of a box-hive bee-keeper, and transferred to movable-frame hives in the season of 1881. My bees did well, making nearly 100 lbs. per colony in section boxes, which amount was thought almost incredible by the old-fashioned bee-keepers. In 1882 I concluded to Italianize, and bought several queens of you, which I introduced safely, and now for results. The year 1883 having arrived, and my bees were mostly Italians, I now had a good chance to try their superior qualities; and getting my section boxes all in readiness, I put them on in good time. I waited results, and I kept looking to see them go to work; they seemed to pay no attention whatever to the section boxes, yet my common, or German bees, were at work drawing out the fdn., and doing very well; and the Italians, though booming with bees, were paying no attention to the surplus department. I concluded to look and see what all this meant; and looking over the brood-frames, here was queen-cell after queen-cell; they were making great preparations to swarm, just as though they had every section box full, and were crowded for room. They would scarcely look up toward the sections.

I concluded to stop their fun, and cut out every appearance of a queen-cell, and, behold! the next day they swarmed and left one hastily prepared queen-cell; but I was determined they should stay in the hive, whether they would work or not. I took the queen from them, and kept them from swarming; but they would not work in the sections, and thus it was with all of them. I had one very weak colony of the common bees that made more comb honey than any three of the strong Italian colonies I had. I think a cross between the Italians and Germans is best for all purposes. I sent to Frank Benton last fall, and got a Carniolan queen, and will give it a trial next season. I am also going to get some of Jas. Heddon. W. S. VANDRUFF.

Kirby, Greene, Co., Pa., Jan. 9, 1884.

Friend V., is it not possible why you had better success with the hybrids than with the Italians is somewhat owing to your inexperience with the latter? I rather think that an old hand at the business would have made your Italians store honey in sections, and stop fooling away their time in trying to swarm.—We should be very glad indeed of a report from your Carniolan queen.

SEPARATORS OR NO SEPARATORS.

FRIEND C. C. MILLER ALSO TELLS US SOMETHING ABOUT THE DIFFERENT KINDS OF SUPERS.

I TRIED several thousand sections last summer in Heddon supers, and, of course, without separators. Although I have not entirely settled all about separators, I think I have learned something. If I did not want to ship to a distant market, I should never use separators. At the Northwestern convention at Chicago, a large number said they succeeded without separators; but I suspect the most of them worked only for a home market. I tried some wooden separators. They are cheaper than tin, and it may be the bees like them better than tin; but the ones I used warped so as to make them objectionable. My experience leads me to the conclusion that a strong colony will make straighter work without separators than a weak one; also, that during a full flow of the honey-harvest, separators are less needed than when honey is coming in slowly.

HEDDON SUPERS.

In some respects I like the Heddon supers very much. They are so much lighter to handle than the wide-frame supers, being only half the weight, whether full or empty. Then I can so easily and quickly look at either the upper or lower part of the super, and see the condition of the entire lot of sections, this being made much easier by the ⅜-inch space between the tops and bottoms of the sections. On the other hand, the wide frames have closed top-bars, and I can tell nothing about the sections without lifting out the frame; and if I happen to want to look at the frame on the south side of the super, I must lift out, or move, six other frames before I come to the south one. True, the wide frames might be made open at the top; but they are not; and even then, we could not see the sections in the lower part of the frames. In filling up the supers, Emma thinks it is much nicer to put the sections directly into the supers, and done with it, than to fill the wide frame in the super. Another advantage of the Heddon supers over the wide frames is, that in giving additional room it is not often desirable to give the entire room of a 56-lb. super, and the Heddon super is only half that size. Again, it is often the case that the upper half of a wide frame is finished, and the lower half partly uncapped. No separators can be used with the Heddon super, unless a separator is used for each separate section. Mr. Burrill, of Michigan, talked of trying such separators, but I don't know whether he ever tried them. When it comes to taking out sections, Mr. Heddon claims a great advantage in rapidity for his super. My experience does not agree with his. My boy, Charlie, takes out, at his best, 960 sections per hour from the wide frames. I don't know that I can take any thing like half that number from the Heddon supers, and I damage more sections in getting out of the Heddon supers. However, practice might make a great difference in this respect. A point in favor of the Heddon supers is, that sections of different widths can be used in them. The width of the wide frame makes an invariable width for the section. In the Heddon supers, during the past season I used sections measuring in width 1¾, 1½, 1⅓, and 1 1-5 inches. When the sections came to be packed in the shipping-cases, those from the wide frames packed, oh so much nicer and easier! But I think I could do better another year in getting straight sections without separators.

To those who have been successful in using separators, and contemplate throwing them all away without any previous experience without them, my advice is: *don't.* Try a few first, and feel your way along. People are not all alike. I think it quite possible some may do best always to use separators. Mr. Heddon, Mr. J. B. Hall, and others, have proved that *they* can do without them. I don't know yet in which class I belong. C. C. MILLER, 172-251.

Marengo, McHenry Co., Ill., Jan. 14, 1884.

Many thanks, friend Miller, for your article on this subject that is now calling forth so much anxious thought. It occupied a very prominent part of the discussions of the convention at Columbus; but I believe the general decision was much like your own. Those who carry their honey to market in a spring wagon, can, without much trouble, dispense with separators; also, it is pretty well decided there is much less difficulty in getting straight nice combs where the sections are not more than 1½ or 1⅝ inches wide. Quite a number are talking about using separators, one to each section; but I think they won't do it very long, if they give it a trial.

OHIO BEE-KEEPERS' CONVENTION.

HELD AT COLUMBUS, JANUARY 14, 15, AND 16.

I WAS present at the convention only one day, January 15th. Before telling you what I saw and heard there, I want to say a word about holding conventions in general. This one was held in the Farmer's Hotel. The proprietors were very pleasant and courteous, and the bill of fare was good, and the prices very moderate; but I experienced a feeling of pain the moment I set foot in their doors, on finding a large display of liquors, the most prominent object in what would have otherwise been a very pretty office. The room was one cloud of smoke, and many of our bee-keepers contributed toward keeping said cloud a dense one; but I could get along very well with this, if it were not for the liquors. I do not know how many of our bee-keepers drink. Only one of them *told* me he had had several drinks of whisky. This one came there with his son, an exceedingly bright and intelligent young man, and I am pretty certain he would not have drank the whisky had it not been held in a building containing a whisky-shop, for he said he voted for the second amendment. I *know* why it is more convenient to have an association to meet at a hotel. We usually get the use of the hall free, besides reduced rates, where so many put up at one place, and sometimes it seems quite inconvenient to get a suitable hall, unless we take one belonging to a hotel or drinking-place, if this is the proper term. A great many of the conventions I have attended in our own and other States have been held in halls belonging to liquor dealers; and most hotels where I put up had a display of liquors, or a liquor-room. It may be there are no first-class hotels that don't have any such attachments. If so, it is a sad fact. If our juveniles are to attend conventions, I feel like protesting against taking them where they will see men, and crowds of them too, pour down liquors at all hours of the day. Is there no one among you who feels as I do about it? Suppose it *does* cost more money; can we not profitably furnish the money?

SIZE OF SECTIONS.

The first subject discussed in the morning was the size of the section. After considerable talk on the subject a vote was taken, and by far the largest part were in favor of sections holding a single pound of honey, although a few preferred larger ones. The matter of separators and the narrower section was then discussed at length, and the majority seemed to favor a section made 1½ in. wide, or a little more, to be used without a separator. If made 1⅞ inches wide it will hold about the same without separators that the 1⅞ in. section would with separators; therefore the standard for the 1-℔. section will probably be 4¼x4¼ as heretofore.

BEE-KEEPING FOR WOMEN.

Mrs. Jennie Culp made the best report of any one at the convention this year, as she did last. She also brought samples of her honey, one and two years old, which she sells in Columbus at 16 cents per ℔. I thought the price a pretty good one; but when I came to taste it I found it equal to any honey I ever saw at any price, and was not so much surprised. She sells it in Mason's jars, quart and half gallon. As we expect soon to give a drawing of her pretty apiary in connection with a report of her work I will not take more space here than to speak of it.

PROF. LAZENBY,

Of the Ohio State University, gave us a splendid talk on the "Nature, quality, and usefulness of nectar for the purpose of plant fertilization." After this paper was read, Prof. L. answered questions for us for some little time, much to our profit and edification.

PERFORATED ZINC HONEY-BOARDS.

These restrain drones without any trouble, but do not always restrain queens.

MR. T. J. MARTIN,

Of Tiffin, read an excellent paper on the management of bees, which had been prepared to be delivered at farmers' institutes held throughout the States. Mr. Martin is an exceedingly able man, and a talk like his to the young farmers of our State must result in much benefit, even to those who might not take up bee-keeping.

KEEPING DOWN GRASS AND WEEDS IN THE APIARY.

Mr. Fradenburg preferred the English rabbit. They have to be kept in by a slight fence of some kind, but will eat every kind of weed that grows. Some use sheep in the same way.

TO PREVENT THE ADULTERATION OF HONEY.

Let every bee-keeper put his name on every package he sells; and if that name is not a good, straight, honest name, go to work and make it so, the first thing you do.

Quite a good-sized table was well filled with samples of honey and bee-supplies. Our good friend Henry Drum brought a case made to hold sections of different sizes and different widths, and so made to be easily adjusted to any width the market demands.

S. D. Riegel brought samples of honey and an improved Bingham honey-knife, and a pair of wooden tongs to shut down the tin-foil caps quicker and neater than the strap used by friend Muth. The honey-knife was like the Bingham, only the blade was shorter and the handle longer.

Mr. Fradenburg had a sample of an atmospheric bee-feeder that could be filled without taking it off the hive.

Samples of different bee-journals and bee-books were also on exhibition.

The next meeting of the convention will be at the time of the State Fair. Like the bee-men in Michigan, our Ohio people have a building on the fair-grounds for the display of bees and honey; but such a crop of honey as ordinary bee-men ought to produce nowadays, would entirely fill the building, leaving no room for his neighbors to make a display. The matter of enlargement is already being discussed.

The president of the convention, Dr. H. Besse, of Delaware, O., is not only a successful honey-raiser, but a very pleasant and able man as well, and much of the interest of the convention was due to his remarks and suggestions. The thanks of our bee-people are also due to our secretary, Mr. Hazard, who was constantly at work for the interests of the bee-men.

I am sorry that our Ohio conventions are not nearly as well attended as those I have been present at in the State of Michigan. During the day I was in Columbus there were present perhaps 40 or 50 bee men and women, and this is all from our broad State of Ohio. It seems to me our State meetings ought to get an audience of at least one or two hundred, and may be the fault lies on my own shoulders. If so, I am going to try to do better. Let us remember the State fair, and turn out *en masse*. Go from a sense of duty that you owe your State and your fellow-men, if you can not scrape up energy enough to go for any other reason. While I think of it, the thanks of the bee-keepers are due to our good friend S. D. Riegel for his excellent revision of the premium list, for the awards at the next State fair. We have about 742 subscribers in the State of Ohio, and it seems to me at least a half of these ought to attend the State convention.

HUBER'S WORKS.

AND SOME MORE INTERESTING FACTS ABOUT WRITERS ON BEE CULTURE.

EDITOR GLEANINGS:—You ask for more information about Huber's works. Strange to say, you will look in vain in our great works on Bibliography for a list of them. The works of dry polemical writers you will find described with ample detail: Huber is dismissed in a line.

His writings were all in French, and consisted chiefly of letters to his friend and scientific patron, Bonnet, some of whose replies are also given in the published volumes. Indeed, his first book bore the title, *Lettres à Ch. Bonnet*, and were published in 1792. Another volume was published in 1796, under the title, *Nouvelles Observations sur les Abeilles*. His works have passed through several editions. My copy is the second edition, published at Paris and Geneva in 1814, the second volume being edited by his son Pierre, who tells us that he procured several hives similar to those used by his father, and that "it was not without a lively joy that he in his turn became a witness to all the features of these wonderfully industrious insects."

So far as I can gather, the first English edition was published in London in 1808. You will notice that this was before the issue of the edition so carefully edited by the son. The edition named by Mr. Henderson is dated 1841. I am informed that the best edition in English is one published in Scotland. I think, however, that there is little doubt but that Mr. Langstroth is mistaken in supposing that there is but one translation. While the translation of 1808 would exclude another for the time being, it would hardly be reprinted after a new and corrected French edition had been issued. I regret to say, that some vandal has cut out the plates from my copy. I have the promise of a perfect one, however.

As regards old books on bee-keeping, the list numbers, I believe, over 800 distinct works, including such books as Swammerdam, which, though classic on some points connected with bees, is not exactly devoted to bee-keeping.

The oldest *English* work that I know of is "Hill's Instruction of Bees," published in 1593—nearly 300 years ago. The next is Butler's *Feminine Monarchy*, the first edition of which was published in 1609. My copy is dated 1634, and there have been a great many editions of this book. During the next year (1610) appeared the *Countrie Farm*, by Gervase Markham, in which he gives directions for clipping the wings of the queen. Warder's *Apiarium* was published in 1676, and his *True Amazons* in 1713. My copy of the latter work is of the sixth edition, published in 1726. By the way, Warder's name is given as *Warden* in Mr. Henderson's letter—a printer's mistake, no doubt. From this time on, books on bee-keeping came thick and fast.

A good translation of Huber would no doubt find great favor with our American bee-keepers. Something that would be still better, however, would be the republication of the original memoirs of Reaumur, Hunter, Maraldi, Schirach, and others. These are now absolutely inaccessible to most students, being buried in ponderous volumes of "Transactions." Huber's works are not inaccessible.

The best way would be to form a "Book Club," organized on the same plan as the European publication societies, in which each one subscribes so much a year, and gets all the books published. If such a club should be formed, it would, I believe, be the first club of the kind in this country, and there is but one name to give it—call it the LANGSTROTH CLUB.

JOHN PHIN.

Cedar Brae, Paterson, N. J., Jan. 21, 1884.

Many thanks, friend Phin, for the important facts you bring forward. I have "Butler's Feminine Monarchy;" but if I am correct, I lent it to Professor Cook, and it is not at hand. Let us take time, and hunt up the best copy of Huber's writings that the world can furnish, and then have it translated by some one fully competent for the task. If it is possible, we should also like plates of the original cuts—all that have appeared in the different editions. If we can not get these, we will get a good engraver to copy the pictures.—By all means, let us have the Langstroth Club, friend Phin, as you call it, and then have a library of old books, accessible to all bee-keepers. Since you suggest the matter, I think I will have a book-case made expressly for old bee-books, and begin a collection that will be at all times open to visitors who come to see us, for we now have visitors almost every day, from different parts of the world. You nearly take away our breath, by informing us that there are over 800 distinct old works on bees. I had got a kind of conceited idea that there were not over 15 or 20 in the world, old and new.

SOMETHING THAT IS NOT ABOUT BEES,

AND YET A MATTER OF MUCH INTEREST PROBABLY, AND OF GREAT IMPORTANCE SURELY, TO US ALL.

FRIEND ROOT:—I would like to call your attention to "Diphtheria—Death—Hygiene," page 23, *A. B. J.* May I suggest that you copy the article in full in GLEANINGS at an early day? I know that it is long, and not strictly bee-talk; but if you can thus lead some poor care-worn and anxious mothers to turn to the light, you will be doing God's work. I know from experience that Mr. Pringle has the argument; his article can not be too highly commended. Hoping that I am not presuming too much in writing the above, I remain

Yours fraternally, E. M. HAYHUST.

Kansas City, Mo., Jan. 14, 1884.

On receipt of the above kind note we turned to page 23, and take great pleasure in giving place to it.

DIPHTHERIA — DEATH — HYGIENE.

This is a strange medley of subjects for a single article, and I make use of it to attract the reader's attention, for I want every reader of the *American Bee Journal* to read this, especially those who have children whom they are liable to lose for ever by that dread, fatal disease, diphtheria.

I am pained at reading on page 619, No. 46 of the *Journal*, Mr. Fradenberg's touching letter about the death of his two dear little boys from diphtheria; and the thought at once forces itself upon me, as it has many times before, Is this fearful mortality from this dread disease *necessary?* Is it inevitable? I think not. Indeed, I know it is not. Of course, I know it is inevitable under the fatal circumstances, but the circumstances can be changed, and hence the fatal results changed from death to recovery. I unhesitatingly affirm (and I know whereof I affirm), that nineteen out of every twenty of those children who die of diphtheria could be saved by simple, common-sense home treatment without a doctor at all. The allopathic, or drug treatment, of this disease is nearly always fatal. I am not a physician by profession, but I have studied the whole of the popular (and unpopular) medical systems, and understand the principles upon which they are based, especially the popular drug system and the (as yet) unpopular hygienic system. I have no axes to grind one way or another. I have no interest in any of them, except to know the truth. I studied them and studied the science of health, as embraced in physiology and hygiene, for my own physical preservation and the physical good of those over whom I might have influence, and those dependent upon me. The consequence is, that for 25 years I have not taken a particle of medicine of any kind; and have been quite free from sickness. And this uniformly good health and exemption from sickness has not been due to an unusually strong and vigorous constitution, which, unfortunately, I never possessed. Indeed, it was just the reverse of this in youth, coupled with certain predispositions to disease that impelled me to look into and study the subject of health, and master the conditions upon which it depends. No medicines —patent or professional, quack or regular—are used in our family; no doctors are employed to medicate with drugs. Our habits are simple and natural, and we reap the reward in good health. Physically speaking, the *real*, natural needs of human beings are few and simple; the artificial and imaginary ones are many and complicated. Children are not reared according to nature, but according to the false and unnatural conventionalities of society; and the consequence of this is physical infirmities and moral obliquities. Our only child—now about 10 years of age—has never tasted a single drop of medicine of any kind—not even the simple remedies in common domestic use; and has always been free from sickness, with, of course, the exception of the contagious diseases incident to childhood and youth, such as whooping-cough, mumps, etc.

The reader will, I am sure, pardon me for so much personal allusion when he considers that I am writing this with a motive to possibly benefit some who may need instruction and admonition of this kind. It is a well-known fact in human nature, that to some minds personal facts and experience on any subject are all-convincing; while to others the principles upon which the experience and practice are predicated must be presented and established. The latter class of thinkers look below the surface at the foundations and fundamentals; while the former are content with superficial appearances and *prima-facie* evidence. The safe way, then, in all matters not palpable or axiomatic is, that while mere *experience* may be adduced as an auxiliary for the purpose named, to put forward or postulate nothing that will not bear the scrutiny of science and reason. To illustrate this point: The man who has used tobacco for 50 years, and is now 70 or 80, adduces his age and experience to prove that tobacco is wholesome. The man who has used whisky-and-water half a century as a beverage, and is now an octogenarian, cites his age and experience to prove that whisky is wholesome; while another octogenarian who has used pure water his whole life without the whisky cites his age and experience to prove that water alone is the most wholesome beverage. But does the fact that the one who has used tobacco 50 years and is still alive, and the other whisky 50 years and is still alive, prove that tobacco is wholesome, or that whisky is wholesome? If it proves any thing in the eye of the physiologist, it proves that humanity is tough, and that some constitutions can stand a great deal of abuse. On the other hand, does the fact that the other octogenarian who used *only* water prove that water is wholesome? No, it does not, for we must be fair on both sides. It will thus be seen that *experience* alone without a rational or scientific interpretation is by no means a sure guide. When the tippler lives to be 80, and avers that whisky is wholesome, and the teetotaler lives to be 80, and avers that only water is wholesome, science must step in and decide the matter between them, by inquiring what is whisky, and what are its relations to the living body of man; and what is water, and what are its relations to the living system?

When, therefore, I affirm the following propositions (which I do most emphatically), I affirm what is supported not merely by experience and *prima-facie* evidence, but what will stand the scrutiny of the highest intelligence and the most advanced science of to-day. The propositions are these:

First, All sickness, disease, and premature death, as well as all conditions of health, are purely natural sequences, mostly within man's cognition and control, instead of being either arbitrary "dispensations," or in any manner fortuitous.

Second, As a natural corollary of this, human beings have, barring unavoidable accidents and hereditary diseases, their life and health in their own hands.

Third, Following also from the above, nearly all the sickness, misery, and premature death with which the world is filled is caused by ignorance, and could be avoided by knowledge.

Fourth, As the preservation of health and life is or ought to be the highest concern of life, our highest and greatest duty is to study and make ourselves acquainted with the natural conditions upon which health and life depend, so that we may preserve our own health and instruct our children in this knowledge, and save them from premature death.

The masses, however, do not do this. The most deplorable ignorance on these subjects prevails, not only among the lower classes, but among the upper and so-called educated classes. I say "so-called," because no man or woman is educated who does not know how to take care of his or her body, or save their little ones from premature death from diseases which could either have been avoided altogether, or cured under proper hygienic treatment. Through unphysiological living,—the breathing of foul air and poisonous miasms, bad eating and drinking, uncleanliness, etc.,—sickness invades the household. Wholly ignorant of the causes, the victims are equally ignorant of the remedies. The doctor is sent for. He gives his poisons. Some, with good vitality, recover in spite of them; others die.

With reference to the disease called diphtheria, as already asserted, 19 out of every 20 of those who die might be saved were the parents properly enlightened on the subject, and the simple, natural treatment applied. I have never seen a single case prove fatal under hygienic treatment; but I have seen at least five-sixths die under the regular drug treatment.

In order to make this letter practically useful, and in hope of saving some of the little ones from premature and unnecessary death, I will give here some instructions as to the treatment of diphtheria, which I have done before, and which has not been without good results.

Of course, it is impossible to give a detailed treatment to apply in all cases, as the *diathesis* varies so much; but a general plan may be indicated. Cold applications to the throat, abstinence for a time from food, *enemas* to free the bowels, cooling drinks of pure soft water, tepid bathing, and thorough ventilation and cleanliness is the simple hygienic treatment of this disease, and will save every child and adult to whom it is applied in time, except, perhaps, those with very frail or scrofulous constitutions, whom no treatment could save. A small piece of ice taken into the patient's mouth and swallowed, or allowed to melt in the mouth, and then replaced by another, and so on, has been effectual, with good nursing, in many cases, without any special treatment. The *rationale* of this treatment is simply this: The cold applications to the mouth and throat, by reducing the violent heat and inflammation, arrest the *fibrinous exudation*, thus preventing the formation of the false membrane, which so often chokes the patient to death. It is very important that the feet be kept warm, and the excess of blood diverted from the head to the extremities. Indeed, a primary indication in all diseases is to restore the *balance* of the circulation; and this can be done in a simple, common-sense way by the application of water, heat, etc., to the different parts instead of resorting to the barbarous allopathic practice of bleeding.

Let all parents, as a conscientious duty, study the laws and conditions of health, so that they may not only preserve their own health, but that of their children, and save them from premature and unnecessary death. This is by far the most important of all knowledge, inasmuch as not only our own highest welfare is involved, but the future prospects of the human race. ALLEN PRINGLE.

Selby, Ontario.

Friend Hayhurst, it surely behooves every human being to study carefully the laws that govern our health, and that save us from premature death. I hope our friend is right in saying that death from diphtheria is not necessary. I do know that the practice of medicine is undergoing some great changes, and I think that we are beginning to use fewer drugs and more common sense. I too have scarcely taken a bit of medicine in 25 years, and yet the amount of labor I do every day of my life is considered, by most people, enormous. I am not going to brag either, nor am I going to take all the praise of it to myself. Our family of five have hardly known any of these diseases, and we have scarcely known fevers. I give a great part of the credit to Mrs. Root, with her common-sense habits. She will have, and always would have, an abundance of pure air and pure water. The coldest day in the winter our sleeping-rooms are aired almost all the time they are unoccupied. Every thing and everybody has to be washed, and washed well, I tell you, just a little before they really need it; and the same way with ventilating the rooms. If the cellar does not always smell like a spring morning, a civil war will soon break out. The food also must be pure, wholesome, and healthful. In fact, during the 25 years or more I have known her, she has so thoroughly converted me to her ways that I can not stand it to sit, even a few minutes, in many of the waiting-rooms of our depots, or sleep in many of the sleeping-cars, to say nothing of crowded audiences. I have been in houses repeatedly where the inmates were sick or ailing, or under the doctor's care a great part of the year. I have known such families to employ doctor after doctor, when I was abundantly satisfied the lack of clean water and pure air was all that ailed them. The directions given in the above article are very much like the treatment my wife gives the children for colds and sore throat. Swallowing ice in pieces the size of a bean is one of my favorite remedies when a disordered stomach would prompt me to drink more water than was good for me. When suffering from confinement and overwork, I get outdoors and ramble among the honey-plants, letting the sun have a fair chance on the bald spot on the top of my head. If that don't do, I help Samuel dig underdrains, and I like it a good deal better than drugs and physics.

DO BEES SELECT A LOCALITY BEFORE SWARMING?

SEVERAL INCIDENTS HAVING A BEARING ON THE MATTER.

I HEREWITH give you a few curious incidents in regard to an absconding swarm of bees, as it settles the oft-asked question, whether bees do select at times a location as a future home, before they swarm.

About the 20th of August we observed a lot of bees in a linden-tree, 60 ft. from our front doorstep. They were on a hunt, so it seemed, but pased in and out at a knot-hole 20 ft. up. Next day the number increased, and in a few days after we could hear them from our porch at night. On the 27th of Aug. our No. 33 swarmed, and they went directly to the tree.

Second incident: Esq. Colby, near here, observed bees passing in a tight barrel at the bung-hole, on a hunt, but increased in number until finally a large swarm came and passed in and took possession. At night he transferred.

Third incident: A farmer with whom I am well acquainted left his single-shovel plow inverted, or, as some would say, upside down, in the slough grass. In a few days he found a colony of bees with a fine lot of honey on the under side of the shovel, working away for winter stores, well contented in their grass home.

Fourth incident: Dr. Higgins, of our town, had a large swarm of bees select the chimney of one of his neighbors for a home, and I tried to smoke them out, but they refused to go until only a small remnant were left alive.

Fifth incident: The church steeple in our town was the home of a colony of bees for a long time, but they finally dwindled and played out (couldn't stand the music, I guess).

QUEENS THAT HATCH OUT AFTER THE CELLS ARE DESTROYED.

In looking over the last year's GLEANINGS I find many cases of queen-cells all being cut, and yet there are plenty of queens appear. Where do they come from? The cases are not isolated, but numerous, and if described they are slim, waspy, and long. A. L. KLAR.

Pana, Ill., Jan. 14, 1884.

Friend K., you make a pretty strong point on the matter. I guess we shall have to admit that bees do send out scouts to look up a place to locate; and I guess, too, they often send them several days ahead, and go in considerable numbers so as to clean house, and get things fixed up a little. I presume it would not do to say that they *always* do this; and yet I have been wondering if they did not make some kind of preparation or examination before they started out for a new home.

HIVES AND CASES.

REPLY TO J. W. PORTER, PAGE 52.

As Mr. Porter's objections to Heddon's hive and case come to us so earnestly and honestly, and as they are the first I have ever seen of the kind, either in public or private, I feel inclined to reply to what I believe to be some mistaken notions of Mr. Porter. We should all make due allowance for the kind of climate and flora each one has to do with, and perhaps more particularly our inability to judge correctly of any system when we have been so long habituated to another, entirely different. As you know I have been a specialist for fifteen years, with from 100 to 500 colonies most of that time, and have been much inclined to experiment, more particularly with hives and fixtures, you will believe me when I say that I have thoroughly tested storing in sections in the brood-chamber, in both one and two story hives—sometimes in connection with top storing, and sometimes alone in the brood-chamber. I have used sections with glass and without, with outer caps and without. I have worked on the plan of removing each section as soon as finished, both in cases and wide-frame supers; also on the plan of removing them only by cases. I say I have tried these different methods thoroughly, because I have produced thousands of pounds of honey in nearly every way mentioned.

I am well aware, that I am very hard to suit; and when any one method or system succeeds in satisfying me two or three seasons, it is quite apt to satisfy many others. I can not find among my records where I have ever sent Mr. Porter a sample hive; and though he may have seen one direct from my factory, I conclude he has never used the system much. Mr. Hutchinson, as you very well know, does not jump at conclusions hastily. No one ever scanned more closely, or asked more questions, and vital ones too, than did Mr. H. when looking into my arrangement for producing comb honey. He has adopted it, and, I think, considers it unexcelled. I have reference to the hive, honey-board, cases, sections, and shipping-crates, the two latter which he exhibited at the Detroit fair.

Mr. Porter is quite right in saying that tiering up is essential to my system, and I think he would have been equally correct had he said that it is an advantage to *any* successful system. When we "tier up" three cases high, the bees work all through readily and satisfactorily, and we have no trouble with soiled combs by removing them by cases; but our only objection to removing them by sections is the greater amount of labor involved. We can do this without the use of separators, by pushing the sections sidewise, placing the new section next to those least finished; but this we do not wish, and need not practice. The narrow hive can hardly be called mine: many of our most successful producers use it. Adam Grimm used it while laying up more money from the production of comb honey than has ever been accomplished before or since by any other living apiarist, if I am correct. I used the 10-frame standard Langstroth for five or six years, for the production of both comb and extracted honey; and since using the 8-frame for several years I much prefer it, both for safety in wintering, and getting the most surplus honey for the labor and capital invested. I may also add, solidity of the hive, and ease of manipulation.

On another page Mr. Baldridge, who is an old skilled producer, speaks of getting the brood high up in the frames, as near the surplus receptacles as may be, the great object being to get rid of *sealed honey*, over which the bees must pass to get to the second story. The 8-frame hive assists in that matter. In it there are fewer ranges of comb, which places an adequate amount of stores for winter in a better position to accommodate the bees during the long cold spells. Where a broader brood-chamber is reduced by dummies, the equally broader case contains some sections resting out over said dummies. In these the bees do not work and finish off their work as readily. This point we gave a thorough test. If our capital were invested in our queens, hives having the capacity of our maximum queens would be advisable; but as our capital is in our combs and wood, and not in the queen, there is more profit in using hives of the capacity of our mimimum queens; in which case, said capital is always employed. This plan also redounds to our interest regarding labor.

In regard to thickness of our cases, there are no objections to making them any thickness desired, except expense and weight. Here in Michigan we have never been troubled by radiation of heat through the thin sides of our cases. We made two hundred with ⅞ sides and ends, but observed no advantage, and speedily returned to the thin case, and much prefer it. All the time we were using those systems of surplusage which used a cap over the receptacles, thus leaving a space between said cap and the receptacles, which the bees could not get at or ventilate. We lost many pounds of honey during hot weather, and our last caps were made with movable tops that gave a thorough system of ventilation when required. This, however, was gladly given up for the more convenient, less expensive, and better case system. We prefer a smaller brood-chamber, as much for extracting as for comb honey. In all cases, with all systems, we always use a rain and shade board over each hive, said board being two by three feet. By experimenting I have come to the conclusion that any style of fixtures that require constant manipulation, such as extracting from the brood-chamber to give the queen room to lay, necessity of interchanging combs in order to get your capital all utilized, is not as good a system as my own. The nearer automatic we can get a practical, profitable, and satisfactory system, the better is that system.

JAMES HEDDON.

Dowagiac, Mich., Jan. 22, 1884.

Thanks, friend H., for the good points you bring out in regard to 8-frame hives, and other matters pertaining to them. There is one point, however, which you hint at but don't mention directly. It is this: That with an 8-frame hive well filled with stores, the bees are less apt to get over to one side in winter, while their stores are over in the other side. But of course this advantage is secured just as well, or better, by the use of division-boards. I, too, have noticed that bees do not store as well directly over the dummies; but with the chaff hive having an upper story a trifle larger than the lower story, I have not been able to notice an objection. My experience has been strongly in favor of an outer case to protect the case of sections; but very likely, allowing the air to circulate between these two cases would be an advantage. In regard to this matter of getting sections in the wide frames, or cases, placed over the brood, I am glad to be able to say that we have something right here from friend Doolittle also on this subject. Here him :

WIDE FRAMES VS. TOP-STORING CASES.

Seeing many are prophesying, at the present time, that the wide frames with separators will soon be a thing of the past, I am led to look the matter over a little to see if we can consistently do away with wide frames and adopt the top-storing cases entirely. In looking the ground over, I fail to see wherein the top-storing system has any advantage over the wide frames; while I think I see many advantages of the latter over the former. As considerable has been said regarding honey-racks for top storing of late, I will not dwell upon that part of the subject, but will tell how I use the wide frames, which will show why I think they have advantages not possessed by the others. I use two styles of wide frames, the major part of which hold but one tier of sections, and the minor holding two tiers. During the winter and early spring, these frames are all filled with sections containing starters of either natural comb or comb foundation, and stowed away ready for use as soon as the honey harvest arrives. The bees are built up as strong as possible, so that we have lots of bees in time for the honey harvest; and in order to prevent early swarming I set some of the combs containing sealed brood over in the space soon to be occupied by the side boxes. It will readily be seen, that I am thus able to give a colony nearly twice the combs during the breeding season that I could if I used a hive like friend Root's 1½-story hive. It will also be seen, that if I can coax the queen to occupy these combs early in the season, I can get a powerful colony of bees in the right time for the honey harvest, without their having a desire to swarm, which thing I could not do did I not have a hive which would admit of side boxing. Another thing all will admit which is, that the wide frames are the most convenient thing to use of any thing when honey is to be stored at the side of the brood-combs. Having our bees, and wide frames filled with sections all ready, we await the honey harvest; and as soon as the bees begin to store a little honey in the vacant cells in the brood-combs, I take out some of the frames in the side-box apartment, and set in a tier of sections, leaving one frame of brood beyond it. The same is done to the opposite side of the hive when we have sections to the capacity of 10 lbs. or more, surrounded by brood, the effect of which is to cause the bees to enter them at once. In a few days, when these sections are partly full, they are raised from between the brood and placed on top of the hive, and more wide frames of sections added between the brood, to take their places. By this plan we accomplish two objects, the first of which is an early start in the sections, and we also keep the bees from crowding the queen with honey, thus causing them to desire to swarm. In a few days more the two frames of brood are taken out, which is beyond the sections at the side of the hive, and the wide frames of sections moved to the outside of the hive, when a tier of empty sections is placed between them and the brood. At the same time the wide frames at the top are spread apart, and those filled with empty sections placed between them, when the hive has the full complement of sections, which gives a capacity of about 70 lbs.

It will be seen, that by the above I have those bees at work in all the sections, and they have done so according to their natural instinct, which is to fill up any vacant space within their cluster. When only top cases are used, the bees must become crowded for room before they enter them, hence can not be gotten into the sections as readily as by the above plan, which results in a loss of time and honey. Again, when I have a prime swarm I give them at first but about ½ the combs, and surround said combs with sections, both at the sides and top, which causes them to enter the sections at once. They are kept thus for about 24 days, when the brood will begin to hatch, thus giving new strength to the colony, when the wide frames of sections are shoved back, and more frames added to the brood-nest, which prevents their casting a swarm right in the height of the honey harvest, as often happens when only top cases are used. In order to give a prime swarm box room enough on top, where only top boxes are used, the whole hive below must be filled with frames when the swarm is hived. In this case the first thing the swarm does is to fill these combs with honey, which remains there unless the queen is prolific enough to cause the bees to uncap it and carry it above. For this reason much valuable time is lost, and the bees are often slow to enter the sections, after thus having plenty of room in the brood-chamber to store honey.

Again, the old stock is often so weakened by swarming that the bees never enter the sections at all, when only top boxes are used. How many hives in the United States have sections placed upon them, only to be taken off as empty as they were put on? When I see that a colony having cast a swarm is not likely to enter the sections from being too weak (if the full number of brood frames is left in), I take out a part of them as the brood hatches, and place a wide frame of sections next to those left, together with two or three at the top, and thus I am able to secure something from each hive, which thing I could never do when I used only top boxes.

Lastly, I very often have nuclei or very small swarms used for queen-rearing, which I can use to advantage as honey gatherers during the honey season, if I can only confine them to a few frames. With top boxes only, I made a failure, as a rule, when I tried to get honey from them, unless I took their honey with the extractor; but when I came to use the wide frames, all I had to do was to give them as few frames as I desired, and place next to them a wide frame of sections, and next to that a division-board. To illustrate: The past season I hived a small second swarm (a thing I rarely do), on account of their young queen I wished to save. After they had been hived a few days I concluded the queen was not what I wanted; and as it was too late to return them to the parent hive, I gave them as many combs as I thought was right, and placed a wide frame of sections at each side of them. As they needed more room in the brood-nest, I gave it them, and at the end of the season I had 30 lbs. of nice section honey, and sold the (then) good colony for $8.00. As the honey brought me 16 cts. per lb., this gave me $12 80 from a small second swarm of bees, or a mere nucleus, as it were. I always try to make every hive in the yard yield me something, and I know of nothing so well calculated to accomplish that object as the wide frames; therefore, unless I change my mind it will be some time before wide frames go out of date with one person at least.

G. M. DOOLITTLE.

Borodino, N. Y., January, 1884.

Heads of Grain,
From Different Fields.

BUNKER'S IMPROVED SIMPLICITY FEEDER.

TAKE a common pie-plate, or any shallow dish; set it on the mat over brood-frames; fill it with whatever you desire to feed; spread over it a thin cloth large enough to extend over the sides; turn up one corner of the mat, and it is done. There is no daubing around. The cloth settles as the bees take up the fluid; there can not a bee get drowned; and when you desire to ascertain if they need more feed, lift the cover of the top story, and you can see at a glance. You may publish this wonderfully simple plan to the world or not, as you see fit; I don't intend to get any patent on it.

T. C. BUNKER.

El Dara, Pike Co., Ill., Jan. 7, 1884.

Friend B., your feeder is substantially the bread-pan feeder, though on a smaller scale. I prefer the bread-pan because it holds more than a dozen pie-plates—does not cost any more, and when you are done with them they nest together in a very small compact space. I prefer a feeder square, so it can be set up against the side of an upper story, or, what is better, right in the corner, then the bees can crawl up the wooden sides, and easily go out and in. One friend suggests painting them and dusting them with sand, so the bees can hang on better; but if the piece of cloth laid over the syrup is large enough, they can easily get up there. However, I would much rather have a feeder like the Simplicity, that does not require any cloth. The cloth is in a very little while untidy, tangles bees, and is a bother to take care of.

WHO SHOULD PAY THE 55 CENTS?

Friend Root:—Will you please give your opinion on the following? Last April I ordered 20 hives from a dealer. After acknowledging the receipt of money, I could hear no more from him till he shipped, which was in June. Freight charges were $5.84. The goods came in good condition, but four pieces were missing. I informed him of the fact, telling him I thought he should send them prepaid, which he did not do, and I had to pay 55 cents express charges. Now, what I want to know is, who should have paid the 55 cents? Should I have paid for his mistake? Until I am convinced that I am wrong, I can not, nor can I recommend any one else, to deal with him. If I am wrong, I would like to know it; if he is wrong, I should like him to know it. Please reply in next issue of GLEANINGS.

Bluffton, Ind., Jan. 17, '84. D. F. VALENTINE.

Why, friend V., I should say the question was very plain and simple. If a dealer omitted the pieces, I do not see how he can escape all the necessary charges to make good your loss. The bother of having to send for more, I should think, was enough for you. Of course, if you counted awkwardly, and imagined they were missing when they were not, you ought to pay for the pieces, and all expenses. However, I believe it is customary among business men to be a little merciful to one who has been so unfortunate as to make a mistake, and kind o' divide up the loss. Though if you insist on your rights, I should say he is bound to pay the 55 cents. I am sorry to say, friend V., that very many business men have a fashion of slipping out of the consequences of their blunders the way you state, and I am afraid if you leave the friend whom you have mentioned, and open trade with somebody else, you will fare much in the same way. In lines of business where competition is sharp, however, you may find men who hold their customers by making every such little loss good, to the very letter. I have been wondering while you were giving the circumstances, if it were not possible that it was myself who was the guilty one. I shall not take back any thing that I have said, even if I am; but I think I shall pay that 55 cents very quickly.

THE GROUND-CHERRY, OR STRAWBERRY TOMATO.

Dear Gleanings:—I had the pleasure through your kindness last spring, of sending to quite a number of your readers some of my ground-cherry seed, which was received with much favor. Some years the bees work on the bloom almost constantly; at other times, but little. It is a fruit well worth cultivating, and the wonder is it is not in every garden. I think it can not be generally known, for every one who has it values it highly. They take the place of other fruit, and are particularly valuable when other fruit is scarce or likely to fail. They grow well anywhere—yield abundantly, and will keep (if left in the husk) till mid-winter, if desired. They are nice for pies, and many other uses, and I esteem them above any other fruit for canning and preserving. I have saved a nice lot of seed, and will gladly send a packet to any of your readers, if they will write me and send stamp. A. T. COOK.

Clinton Hollow, N. Y., Jan. 10, 1884.

DIVISION-BOARDS WITH FELT LINING.

I want to describe the division-board I use; and if it has already been described, it will do no hurt any way. I use a common plain board, except I run a groove in each end and the bottom, and draw and tack in strips cut from old hats, letting them project sufficiently to make them perfectly tight when in the hive. This makes the best division-board I have found, and is easily done. There is no use of any hangers at the top, for it will stay just where you put it. D. W. BELLEMEY.

Vienna, Ills., Jan. 16, 1884.

Your idea is not exactly new, I believe, friend B., although I do not remember to have heard of felt hats before for the same purpose. Unless the felt is pretty stout and firm, I fear the bees would propolize it fast to the hive, and then it would be torn in moving your division-board. Quite a number of the friends use a strip of rubber put in, in that way; and some of them with a fold made by doubling the rubber. We have found a little difficulty in packing chaff behind such division-boards, because they were so easily pushed over against the brood-combs.

OUR FRIEND D. S. GIVEN, OF THE FOUNDATION PRESS.

At the closing-up of a very pleasant letter from friend G., we find these words:

My health has not improved any for nigh two years; but the dread disease is pulling me down,

down, slowly; but it looks to be surely. I am marching for that home beyond, where we shall have no bother with presses and rollers and other cares, but will meet as friends, to enjoy an eternity of rest and joy. I have no hopes of any recovery. I have tried the sea, the mountains of California, and found no relief. I enjoy this climate very much, as I can ride out every day in the beautiful sunshine, which relieves my suffering very much. I have felt very thankful that my press business has fallen into such trusty hands as it has. But I am taking your busy time, and must close.

Yours most kindly, D. S. GIVEN.

Los Angeles, Cal., Jan. 11, 1884.

Friend G., we who are in the full enjoyment of health and strength hardly realize, I fear, the blessings we enjoy. Your letter is, in some respects, a sad one, and yet there is a bright thought that runs through it, of the "home over there." Thank God, there is a refuge for poor, suffering, and afflicted humanity, and a sure and eternal rest.

BASSWOOD-TREES FOR SUPPORTING WIRE FENCE.

I have a suggestion to make. In fencing, one great expense is the posts; now why can't we plant basswood-trees, and use wire fencing when the trees are large enough? Would the shade be much of an objection to growing crops? If it would, there are places where we could use them.

Don't we say too much about getting a big price for our honey? Would it not be better to try to raise it so we can afford to sell it cheaper? It does not seem to me it will ever become the staple article we wish, unless we can sell very cheap.

The season has been only a moderate one; mine averaged about 70 lbs., nearly all white, as the late honey was a failure. ROWLAND WHITE.

Grand Rapids, Wood Co., O., Jan. 9, 1884.

Friend W., the basswoods will answer very well for the purpose you mention; but, like all other rank-growing trees, they spoil all the crops growing near them. On this account, most of the friends put them on the roadside, on the outside of the fence. I agree with you in regard to furnishing honey at a low price, and I have felt quite a degree of pleasure in furnishing honey for only 10 cts., in 50-lb. cans.

UPS AND DOWNS.

I went into winter quarters one year ago with 35 colonies, 30 of which were fair to good, and 5 were weak, but had young queens that I was desirous of saving, if possible. They wintered well until the middle of March, when there were a few warm days; and as I had to move my bees about half a mile, I thought best to move them before they had a fly; so I moved them during this warm spell. After moving, some of them began to dwindle, and kept on until the others were swarming. About May 1st the bees obtained their first new honey; from then until the 25th there were lots of blossoms; but the weather was so unfavorable that, when apple-blossoms were gone, the best colonies had not gathered enough to last until clover; but I had saved plenty of sealed honey in brood-frames for feeding (the cappings were mashed by passing a knife over them, and they were placed between frames of brood); fair to good colonies built up very fast, and had a surprising amount of brood by June 1st (4 colonies having upward of 1000 sq. in. of brood). The first swarm issued June 4; the last one July 5; commenced storing in boxes June 15; worked well until the 25th; from then until July 10, when clover failed, the weather was cold and rainy. The bees got the swarming fever so badly that it greatly interfered with their storing honey. Commenced stimulating about the middle of July for buckwheat, which began to yield Aug. 17; stopped building combs the 23d, and the season for 1883 was over. I obtained of box honey, white, 900 lbs.; box honey, dark, 525 lbs.; extracted, white, 50 lbs.; extracted, dark, 25 lbs.; total, 1500 lbs.—an average of 60 lbs. per colony, spring count. I have at present 50 colonies, all of which, except 3, are in good shape for winter, with plenty of honey to winter on, besides several hundred pounds stored away for spring feeding.

The season was a very peculiar one; very wet in the spring; dry in June; wet again the last of June and first half of July, when it turned dry again, and continued so until September. The best part of clover was spoiled by wet, and buckwheat by drought. My best stock, Italian, with 15 combs of brood, cast one swarm and stored 171 lbs. of box honey.

Baptisttown, N. J., Jan., 1884. JOHN B. CASE.

REPORT ON BEES; BLACKS AND ITALIANS.

I bought 11 Langstroth hives and two colonies of bees for $22.00. One of the colonies was Italian, and the other black. The blacks swarmed twice; one swarm left for parts unknown. They made 15 lbs. of extracted honey in upper story. I then sold the two black colonies at $5.00 apiece. The Italians swarmed twice, and the first young colony swarmed once, and I found a swarm of Italians on my hedge-fence, so I had 5 colonies of Italians and about 45 lbs. of comb honey. I gave one of these colonies to my little brothers, and sold them a hive, so I have 4 colonies left, which are packed in straw on their summer stands. This has been a poor honey season, and my first attempt at bee-keeping. If I had sold my honey at 15c per lb. it would make $6.75. Bees on hand are worth $5.00 per colony, $20.00. Sold two colonies of blacks at $5.00 per colony, $10.00. Paid for foundation, $1.80, leaving me a profit of $12.95. I am well pleased with my success, considering the season and the experience I have gained.

Davenport, Ia., Jan. 1, 1884. ADAM LITTIG.

ADVANTAGE OF HAVING LARGE LABELS IN A PROMINENT POSITION FOR JARS OF HONEY.

When jars are placed on the store shelf among other canned goods, they are not noticed, unless the "Honey" is large. I have some jars in a large store, and they are labeled, too, but not big enough, and hundreds of customers never see them, and there is a small store with the shelf about 6 feet from the customer, where they sold ten times as much as the other. JAMES MCLAY.

Madison, Wis.

MODERATE FAVORS THANKFULLY RECEIVED.

I wish to report my success in bee-keeping the past summer. I put 30 stands in the yard in April, after wintering without any loss; had one dwindle out in May; worked for comb honey altogether, in 1-lb. boxes. I took off 1500 lbs.; sold at an average of 16 cts. per lb.; total, $240. I have 50 good swarms in the cellar — not a very big yield; still I am out of Blasted Hopes. JOHN CLINE.

Fayette, Wis., Dec. 26, 1883.

SHIPPING BEES BY THE POUND.

Will not some of the friends give us the benefit of their experience in shipping bees by the pound? What kind of food, boxes, etc., have been found to be the best? I sent bees last season from Maine to Utah. As a rule, I was successful, but in two or three instances I met with very annoying losses.

MORE ABOUT QUEENS ACROSS THE OCEAN BY MAIL.

Possibly some of the friends may be glad to know more particulars of the queens sent to me by mail, last summer, from Munich, Germany, by Frank Benton. The first one came through in excellent order; only one dead bee in the cage. I never received a package from any one in which every thing was in better order. The second one was just the reverse of that. All the bees but one were dead. The queen was immediately introduced to a colony, and when I last examined it, just before the winter commenced, she was alive and doing well. After this he shipped me three packages; but when they arrived, all the bees and queens were dead. As nearly as I could make out, they starved because the candy hardened to such a degree that they could not eat it. So the venture finally ended by giving me two queens, while three died on the way. All were packed in the same way, and the tin bottles contained plenty of water when the boxes were received. E. A. Gastman.

Decatur, Ill., Jan. 19, 1884.

WIDTH OF SECTIONS.

What are we going to do about this difference in the width of sections, all the way from 1½ to 2 in.? Can we not have a standard width? If an inch and a half is decidedly the best, why not adopt that, as soon as we can? I can not see that there can be very much difference between sections 1¾ and 1⅞ wide, as we now have them.

"Strange such a difference there should be,
'Twixt tweedledum and tweedledee."

Many thanks to Mr. Doolittle for his valuable paper on keeping bees strong during the honey-flow.

WIRED FRAMES — ARE THERE ANY OBJECTIONS TO THEIR USE?

How many of those who have used wired frames for extracting from, like them better than the unwired? What are the objections to them, if any, besides the extra cost? Mrs. M. A. Shepherd.

Barry, Ill., Jan. 1, 1884.

My friend, a great part of our time at Columbus was devoted to this matter of narrow sections. The result seemed to indicate, that sections 1½ to 1⅝ can be used very well without separators; and if made the standard size, 4¼x4¼, they will hold a pound of honey. These narrow sections will go into our regular cases without any trouble, giving 32 to the case, instead of 28. Of course, we should have to make narrow bottom-boards to support them.

There is no objection to the wired frames, that I know of, except their extra cost; in fact, it would seem that everybody was adopting them almost unanimously, by the amount of wire we are selling for the purpose. When first made there was an objection urged, because the bees sometimes tore away the combs around the wires; but this happens only when they are first put in, during a dearth of honey. After one good flow, so the comb is built out completely, the bees never bother that way afterward; and after a set of brood has been reared in the cells, the cocoons cover the wires, and make the whole fabric strong and substantial.

THE SPEED OF BEES.

Our friend Ewing, of North Carolina, settles the question to his own satisfaction, by declaring that the bee was created a beast of burden, and, therefore, is not endowed with speed. But this inference is not conclusive. The horse is a burden-bearer, and it is also prized for its speed; and the carpenter-bee is a clumsy-looking fellow, but he can dash away at a rate that prevents the eye from retaining his image. Last summer, while watching a swarm in the air, I noticed that the bees appeared to be lines about three feet long. This suggested to me the following plan to determine their speed. Mount an object the size of a bee so it can be revolved in a circle. Move it at a rate of speed that will make it present to the eye the same linear appearance that the bee does in the swarm. Then time its revolutions and make the necessary calculations, and you have the speed of the object, and, approximately, that of the bee. Second swarms are the best for tests of this kind. And the afternoon, with the bees lower than the observer, and between him and the sun, gives the best view. J. M. Beatty.

Shaw's Landing, Pa.

Your suggestion is a very ingenious one, friend B., and will give the rate at which bees fly in curves pretty definitely, without question.

REPORT OF THE N. E. OHIO AND N. W. PENN. BEE-KEEPERS' ASSOCIATION, HELD AT JEFFERSON, O.

The subjects discussed were ably handled by Mr. D. Vidette, of North East, Pa., M. A. Mason, of Andover, Ashtabula county, O., and I. McGonnell, of Waterford, Erie county, Pa., and many others, all good men.

IS MODERN BEE-KEEPING A SUCCESS FINANCIALLY?

Was answered in the affirmative by nearly all present.

IS IT BEST TO CONNECT OTHER BUSINESS WITH BEE-KEEPING?

Affirmative generally for all beginners; but if one has 100 stands, not, and the best business with bees was farming.

THE BEST METHOD FOR INCREASING COLONIES.

The raising of queens from cells left by the first natural swarm, by placing in nuclei, and then building up.

WHICH IS THE BEST HIVE FOR THE PRODUCTION OF COMB HONEY?

Did not cause much discussion; let every man use the hive he had, if he liked it; a half-story surplus on the L. frame was the favorite for one-pound sections.

BEST METHOD OF PRODUCING COMB HONEY.

Mr. M. A. Mason deserves the thanks of all bee-keepers for the plain and simple explanation of his method, which consists of hiving the first swarm of the season in a new hive, then taking cells and two frames of brood from the old hive, and placing an empty section case under the one already on, then hiving the next swarm in hive No. 1, and so on, giving the best results.

HOW BEST TO PREVENT SWARMING.

Giving young queens, and removing brood, and giving room in hive, etc.

HOW MAY WE WINTER OUR BEES SUCCESSFULLY?

Chaff packing on summer stands is the best.

HOW RAISE THE BEST QUEENS?

Cells from the full colony, deprived of queen or cell, left by the first natural swarm.

F. M. BLANCHARD.

Orwell, Ashtabula Co., O., Jan. 20, 1884.

FRAMES FILLED WITH FDN. MADE BY THE GIVEN PRESS; A SUCCESSFUL SHIPMENT.

On page 31 of January GLEANINGS you express a doubt about fdn., put in frames by the Given press, being strong enough to bear shipment. I will say, that three years ago next April I ordered of James Heddon 4 hives and 40 frames with fdn., put in on wires by the Given press, and they all came through in good condition. I do not think that there was a wire broken, or a piece of foundation broken down, and it came clear up to the top-bar too, but did not quite fill at ends and bottom. I presume they could be made to fill all around, if necessary. I used the hives and frames that summer to put new swarms in, and I never saw any thing built out nicer than those combs were, and it did not make any difference about the wires in the cells; the queen laid, and the eggs hatched, and were sealed over just the same as any.

CHAS. B. RICHARDSON.

Hollis, N. H., Jan. 21, 1884.

Very glad to hear it, friend R. You did not say whether they went by express or freight—probably by freight. This shipment was made in warm weather. It would likely have been more difficult in February or March; but it is also difficult to make such frames stand shipment in cool weather, when put on wires by hand.

LADIES AT BEE CONVENTIONS.

The bee-keepers of Miami County met on the above date at the auditor's office at Troy, and organized the Bee-keepers' Association of Miami County, by electing the following officers: President, J. P. Johnston, Piqua; Secretary, Miss Flora Combs, New Carlisle; Treasurer, John M. Pearson, Tepaconnue, and a vice-president from each township, as far as represented. Seventeen bee-keepers went into the organization, including several ladies. There was considerable enthusiasm manifested, and much intelligence.

PHILLIP NOLAND.

Piqua, Ohio, Jan. 19, 1884.

The feature that interests me most in the above is, that the convention had good sense enough to put in a lady as secretary. At our convention at Columbus, Mrs. Culp was put on a committee. Of course, she objected, and excused herself; but I told her that she must let her name appear, in any event, to give weight and influence to the committee, for she was the most successful honey-producer who had attended the convention for two years past. I think I made no mistake in saying this. Now, then, friends, let us not forget to extend an invitation to the ladies to take part in our bee conventions.

PEA-VINE, OR MAMMOTH RED CLOVER.

I saw a very interesting piece in January GLEANINGS, page 20, by H. B. Harrington, on the pea-vine clover. It certainly is of interest to the bee-raiser, and to the farmer. The latter part of July I went through a field of mammoth clover. I heard the bees humming, and wondered what they were doing in the clover field. To my great surprise, they were gathering honey. Italians, blacks, and bumble-bees' were busy. Will Mr. Harrington tell how to save the seed, and how to prepare it for hay? I am trying to get up a club to send for some seed, as it is hard to get here.

J. N. CHAPMAN.

Smoky Valley, Ky., Jan., 1884.

I just submitted the question to neighbor H., and he says the seed is saved just the same as any other red clover, with the exception of what he says on the subject in the article already alluded to. I believe the hay is saved as any other hay. Any one familiar with curing clover will know exactly what to do with it.

DEATH TO BEES FROM PARIS-GREEN POISONING.

Mrs. Mosher's poetical effusion in January GLEANINGS reminds me that for a day or two last summer I had considerable mortality in one hive—the bees wabbling about in a queer kind of way, and about a quart or two of dead ones, as the net result. As the trouble ceased as suddenly as it began, and was confined to one hive, I concluded the bees must have been working on the potato-blossoms in the garden, which had just then been dosed with Paris green. I could assign no other reason.

C. W. YOUNG.

Stratford, Ont., Jan. 8, 1884.

BENJAMIN FRANKLIN'S OPINION OF AMERICAN HONEY; AN OLD LETTER.

We copy the following from the *Evening News*, of Cleveland:

Colonel A. S. M. Morgan, of Pittsburg, has in his possession the following hitherto unpublished letter: "PHILADELPHIA, January 8, 1787. Mr. John Morgan. Sir: I find myself greatly obliged to your good Father for the Hive full of Honey which he has so kindly sent me, and to you for thinking of me and proposing it. I use it as a Part of my Regimen every Morning at Breakfast. It is much the best I have met with in America, and I think fully equals the famous Honey of Narbonne, so much esteemed in France. With my hearty Thanks, please to present him my best wishes for his Prosperity, and many happy Years to you both, in all of which this Family joins me. I am, sir, Your most obedient Servant,

"B. FRANKLIN."

BOTH SIDES OF BEE CULTURE.

It seems to me that the friends can not rightfully accuse the bee-journals of "giving but one side of the question," when they publish, time after time, such letters as those of friends W. Z. Hutchinson and H. W. Simon, in GLEANINGS for Jan. 1, pp. 5 and 28. Send in your reports for Blasted Hopes, friends; or, if you do not wish to do so, as friend Simon says, do not blame the bee-journals for not publishing them.

L. P. SCOTT.

Kinsman, O., Jan. 6, 1884.

150 LBS. OF HONEY, AND $18.00 IN MONEY PER COLONY FROM AN APIARY OF 43.

In the fall of 1880 I had 47 colonies; in the spring of 1883 I had 43 — three *very* weak. From the 40 stands, which I worked for section honey alone, I averaged nearly 150 lbs. per colony, which I shipped, besides several hundred partly filled boxes still on hand. The largest yield per colony was about 225 lbs.; three of them made a little over 225 lbs. each. The honey sold brought me $18.00 per colony, besides expenses. I have at this time 44 stands. The season this year was the best for many years. My bees did as well, or better, than any I have heard from in this section.

JOSEPH A. HART.

Vineyard, Ind., Nov. 19, 1883.

FASTENING THE FRAMES FOR SHIPMENT.

After reading an article on page 30, Jan. GLEANINGS, from John Do, under the head of Growlery, I thought I would send you a few little simple tins that we use; so if you should receive any more such inquiries you will be prepared for them. It is simply a piece of tin cut ½ inch wide, and doubled so the short end is ½ inch long, and the long end about ¾ inch. The short end goes inside the tin rabbet. It is slipped on the tin rabbet, between the frames. I first nail on the sides of the hive, in corners, a strip of wood ¼ inch thick, and about 2 inches long, with ½-inch wire nails, so they will come up even with top of frames; then put in frame; then put on one of these little tins at each end, then frame, and so on until you get in your ten frames. It is what we call Howard's device. My friend Howard seeing the need of something to space the frames, and hold in place while moving the hive, invented this device (and it didn't rack his brain much either). We all like it much. It takes 18 for a hive, and is easily made at any tin-shop. I would like friend Do, or any other bee-man, to try them. I don't ask you to help me get it patented, either. D. C. BLAIR.

Columbus, Pa., Jan. 10, 1884.

Friend B., your device is quite ingenious indeed; and if it were only the tops of the frames we wished to fasten, I believe it would be ahead of all other devices. The little clips could be made for perhaps 10 cts. a hundred, and they can be slipped in without any possibility of killing a bee. The objection is, that they do not hold the lower end of the frames from spreading, as the spacing-boards do. No doubt they would answer every purpose for fastening the combs where they are transported in a wagon or buggy, or even by rail, if the owner did all of the handling of the hives; but where hives of bees are to be trusted to the mercy of railroad men, I think I should hardly dare risk them without the spacing-boards shown in our price list.

CAN WE AFFORD THE BEST KIND OF SUGAR TO FEED OUR BEES?

No, Mr. Root, that won't do; we shall have to stop somewhere, and why not at once? Some years ago, New Orleans sugar or common molasses was good enough to feed bees; then coffee A and grape sugar must be bought; then those were not good enough, but granulated; and now you have taught them to spurn that, carry it out of the hive, and throw it away, even when they were likely to starve. You didn't come along here, and slyly whisper to those of mine that there was a grade of sugar better than what they were getting, did you? Next we know, pulverized sugar will not be good enough, but something still better must be found to suit their fancy stomachs. I am unable to figure out where my profits are to come in, to sell honey at 10 cts., and buy sugar at 13 cts. per lb., to feed them. I guess they will have to come down a peg or two.

THE JONES HONEY-BOARDS.

I see there is some discussion on the Jones zinc queen-excluder. I tried half a dozen of them last season, and in two or three cases I found the queen had passed them. I shall still use them next season, for I have been very badly annoyed by their going into the upper stories. A. A. FRADENBURG.

Port Washington, Ohio, Jan. 4, 1884.

Friend F., if you buy any kind of bee candy, you have to pay about 15 cents per pound for it, at the lowest estimate, and that is 2 cents more than the powdered sugar. Very likely it would behoove us to have our bees so fixed for winter that they will not want any candy or sugar either.—I am very glad to know that you find the zinc honey-boards good, even if some queens do get above.

MAKING ODD-SIZED SECTIONS AND FRAMES.

The extra number of sections is all right. When you make odd-sized sections for me, and they overrun the number ordered, send them along, and charge them to my account, and I will see that they are paid for, whether the money is in your hands or not. G. M. FREEMAN.

One of the great difficulties in making odd-sized sections, frames, etc., is to pick out just enough lumber to make the amount called for, no more and no less. As it is next to impossible to do this, we generally aim to have a few more. As they are of no value to us whatever, we have been in the habit of putting them in at the same price, subject to the approval of our customer. In most cases we get a reply like the above; but once in a while we have a friend who insists on having orders obeyed to a letter, and who will not pay for the overplus. If they run under, we have to take the chances of a sharp letter because we did not send as many as ordered. I have mentioned this that our friends may know why we so much dislike to make small lots of odd-sized goods.

PEAT FOR SMOKERS.

Your postal of the 20th is received, asking for price of peat per barrel. I think I can furnish it at $2 00 per barrel, and probably lower. I shall not be able to ship any before spring, as it is snowed under now. Please let me know if you want any, and how much you want, and I will send price, and make preparations for shipping. ELIAS BERG.

Cicero, Ind., Nov. 28, 1883.

At the price you mention, friend B., I think a great many of the brethren will take a barrel. You may put me down for five barrels. Of course, it should be sent by freight.

SMOKER FUEL.

For cross bees I take a small piece of an old quilt that has been used over the frames until it is covered with propolis, and put it in the smoker with the rags or wood, or whatever I am burning. It makes a terrible smoke, and a few whiffs of it always quiet the worst bees I have. I guess they think their house is on fire when they smell the burning propolis; any way, they fill themselves with honey as quickly as they can, and then stand on their heads and just *howl* for mercy. Nebraska is going to lead the world in *quality* of honey some day; see if she doesn't. Bees did very well here this year.

CHAS. R. THOMPSON.

Fort Omaha, Neb., Nov. 27, 1883.

ROBBING AT 50° TEMPERATURE.

My attention was called to the bees to-day on their summer stand, with their usual place of entrance left open, when, to my surprise, I found one colony flying around as in June. I watched them awhile, and found they were robbing that hive, with the mercury standing at 50°—pretty cool business. It was a very bright sunny day, with the snow melting away. I interposed by placing wire cloth over the entrance, to prevent any further ingress. I expect to find the bees dead. I was afraid it was too cold to open them to see what condition they were in.

E. L. JOHNSON.

Cincinnati, Ohio, Dec. 28, 1883.

AN A B C SCHOLAR 53 YEARS OLD.

I commenced bee-keeping last spring with one swarm, as an experiment, for I had never kept bees. I think they were weak, for there could not have been 2 quarts of bees in the hive; had scarcely any honey, and had to be fed; but I think I did not feed late enough, for I could not get the sugar. They did not swarm, made no surplus honey, filled six combs half way down with honey, capped; size of comb, 12x14, and only about doubled the quantity of bees. But I am not in Blasted Hopes; but, on the contrary, I am getting the "fever," and shall send for more bees in the spring. Bees are all right to date. There was a profusion of wild flowers here, and why did my bees not swarm? They were brought a distance of 35 miles. I am ignorant of modern apiculture; have never seen an extractor, smoker, or any of the modern implements of apiculture.

DRONES—ARE THEY NEEDED IN EVERY HIVE?

Will bees work as well in the absence of drones as when they are present? I have not seen a single drone about my hive during the season, and there is no drone comb in the hive.

I don't know of another swarm of bees within 30 miles of here, and if mine should abscond, they would be forced to come back, for there are no hollow trees for them to go into; the largest timber here is second-growth cottonwood.

Empire, Dak., Jan. 17, 1884. ANDREW CRAIG.

Friend C., the bees work all right with no drones in the hive, although it has been surmised that they work with more energy when at least a few drones are present; and I am inclined to think that this is the case. I think your bees would abscond all the same, even if there are no trees for them to go into, for they often build combs in the bushes, especially with a climate as warm as yours. If your locality is a good one, your swarm did very poorly. I should say the queen was not up to the average.

CALIFORNIA SAGE IN THE NORTH.

Please answer through GLEANINGS, will California sage grow here in 40° north latitude, or have you ever heard of any being tried? J. G. NORTON.

Macomb, Ill., Jan. 18, 1884.

I have been told, friend N., that California sage would not grow with us. We have raised a few plants, however, but I kept them mostly indoors. Can any one tell more about it?

TARRED PAPER FOR BEE-HIVES.

I want to know if a house, covered inside and outside with tarred-paper board, would be frost-proof; also would the tarred paper affect the honey in any way? I want some place to keep honey in.

Bunker Hill, Ill., Jan. 18, 1884. GEO. DREW.

I do not think tarred paper would do the honey any damage. It might, however, give it a taint, if just put in, and the honey were put just next to it.

IF EXTRACTED HONEY IS 8 C., AND COMB IS 15 C., WHICH SHALL WE RAISE?

I commenced operations in the spring of 1883 with 98 colonies. Natural swarming commenced June 2, and in a short time they increased so rapidly we could not get hives ready fast enough, so commenced doubling, or putting two swarms together, and put about 120 swarms into 75 hives, which made them strong; consequently, from doubled swarms I got a nice lot of comb honey in 1-lb. sections. The Blue Ridge is a good locality for swarming, but does not always prove so fruitful as it has the past season. I raised about 2000 lbs. of comb honey—1500 in one-pound boxes, 500 in old-style five-pound boxes. I never raised any extracted honey; would like to have advice in regard to raising honey for the market. Will extracted honey pay as well at 8c. as comb honey at 15c. per lb? Our honey is principally made of blue thistle, white clover, and sumac.

TIME OF BASSWOOD BLOOM.

We have some basswood which blooms about June 25, and lasts 10 or 12 days. My bees have been very much neglected in the past, having a stock farm of about 600 acres to claim my attention; consequently, bees have to be put off for a more convenient season. T. WM. FLEMING.

Paris, Fauquier Co., Va., Jan. 18, 1884.

Friend F., I presume there will be a good many different opinions in regard to your question; but as you state it, I think I should work for comb honey. If extracted honey brings 10 cts. by the barrel, then I think I should raise extracted. I should like to hear from friend Doolittle in the matter, and as many others as have an opinion to offer. This is certainly a very important question. Perhaps wisdom would dictate that you should produce both, until your market has given a decided answer as to which is preferable.

"Forgettery."

MR. A. I. ROOT:—As you say you are in my debt five cents, you will please send me a dinner-horn—a good one that my wife can blow. Inclosed find postage for same.

Brick Church, Tenn., Dec. 11, 1883.

Friend—what's your name?—when I was a small boy, my father used to tell me, in a joking way, about driving so far that we came to the "jumping-off place." Now, when our clerks read your letter as above, they thought they had come to the jumping-off place, sure, for there was no way in the world they knew of to get a bit further, till we got the postal card below:

I wrote you for some of your goods about three weeks ago, and have not been able to hear from you since. Please write me if you received the money or not. W. G. BURGESS.

Brick Church, Tenn., Jan. 8, 1884.

Why, bless your heart, friend Burgess, we got the money, to be sure, and you can not think how happy it makes us to think we are now able to send right along that dinner-horn for your wife to blow on. When I think of your having been without your dinner all these long weeks, or at least until this last order, just because of the want of that dinner-horn, it really makes me feel sad and melancholy. But then, why didn't you sign your name to that letter?

Reports Encouraging.

FROM 80 TO 140, AND 6000 LBS. HONEY.

LAST spring I sold off nearly half of my colonies; and after one of the most backward and wet springs ever known here, I commenced the season with 80 colonies, above half of them fair stocks, the remainder indifferent, with but small amount of brood on the 1st of June. I made from the above, 5000 lbs. of white-clover honey in 1-lb. sections, and 1000 lbs. of extracted: all sold at 16 to 18 cts. for sections, and 12½ for extracted; but about 400 lbs. still on hand, at A. V. Bishop's, Milwaukee. Increased to 140 colonies, of which there are 120 in cellar, and 20 chaff packed on summer stands. I did not accept any after-swarms. W. ADDENBROOKE.

North Prairie, Wis., Jan. 1, 1884.

MY REPORT.

I had six colonies of bees in the spring. I now have 15 in good condition for winter. I have them well tucked in on their summer stands. I got 534 lbs. extracted, and 54 lbs. box honey. Extracted is 10c., and comb 12½c.; dull sale. W. J. WOODS.

Villisca, Iowa, Dec. 20, 1883.

I commenced last spring with 4 good ones and 2 poor ones, and have 24 now. I sold 10 last summer, and got 221 lbs. honey, besides what we used in the family, and I made my own hives, and did my housework, and had all the care of the bees. I think a woman can keep bees, if she is not lazy.

JENNIE C. MARCH.

Tecumseh, Neb., Jan. 2, 1884.

A MAGNIFICENT REPORT FROM LOUISIANA.

Extracted 11,500 lbs. of honey; a young daughter and myself attended to the work about the apiary and extracting, which took about one month. Commenced with 70 colonies in the spring; increased to 112 colonies, averaging about 165 lbs. honey to the colony. B. MARIONNEAUX.

Plaquemine, Iberville Parish, La., Jan. 18, 1884.

FROM 3 TO 10, AND 336 LBS. HONEY.

As I am one of your A B C scholars, I thought I would give my experience with bees. I commenced the spring of 1883 with 3 colonies; increased to 10. I got 336 lbs. of extracted honey. My bees are all in cellar, in good condition. I give your A B C book and GLEANINGS all the credit for what I know about bees. S. FRANKHINSER.

Bettsville, Ohio, Jan. 21, 1884.

I have now 70 colonies of bees—Italians. I had 30 last spring. I have taken 6000 lbs. of honey from them, mostly extracted. I have sold it mostly all in this vicinity. I put it up mostly in 5-gallon kegs, and sold whole packages at 10 cts. per lb. I had an extra quality of honey, it all being clover and basswood. I had no fall honey. I am wintering my bees in a cellar, outside, made on purpose. I have some pipes put in to give them fresh air. I think bees want a good letting-alone in the winter; disturbing them hurts them, I think. A. C. SANFORD.

Ono, Pierce Co., Wis., Jan. 8, 1884.

MY REPORT FOR 1883.

I went into winter quarters with 4 colonies; lost one; commenced the season of 1883 with 3 good ones. My crop of honey was 300 lbs. extracted, and 40 lbs. comb, mostly white-clover honey. I go into winter quarters with 12 good colonies, mostly Italians. My increase was by natural swarming.

E. M. THOMPSON.

La Fontaine, Wabash Co, Ind., Dec. 31, 1883.

FROM 9 TO 17, AND 28 LBS. OF HONEY TO THE HIVE.

I began the season with 9 stands, all in fair condition; increased to 17 by natural and artificial swarming; got 28 lbs. extracted honey to the hive, spring count. My bees are all blacks, and are in good condition for winter. The past season has been a very poor one for bees. Mesquite and horsemint bloomed profusely, but secreted but little honey. I have not made bee culture a great success this year, but I look forward to better luck next year.

Hubbard City, Tex., Dec. 23, '83. S. F. DELLIS.

FROM ONE TO EIGHT, AND 300 LBS. OF HONEY.

I came here in 1882, and concluded to go into the bee business at this place. I find it a good locality for the business. I bought me one stock of bees for $5.00 in 1882; I now have 8 stocks on hand, and I have taken about 300 lbs. of honey, worth 20 cents per lb., and my bees are worth $7.50 per stock. I think this is not bad for a small investment. I have a movable-frame hive, which is a good one. I will give to any one a $5 gold-piece who will come and find a cell full of bee-bread in the stock of honey that I made last season. I only wish I had 100 stocks to work with this season. There are plenty of wild bees here in the timber. One man found 84 bee-trees the past season. WM. MONTGOMERY.

Noble, Richland Co., Ill., Jan. 4, 1884.

FROM 33 TO 58, AND 2600 LBS. OF COMB HONEY.

This has not been a very good honey year here. But as I little more than paid expenses, I do not know that I ought to complain. I started in the spring of 1883 with 33 colonies; increased to 58, and took about 2600 lbs. of comb honey, all in 1-lb. section boxes. Have sold 2234 lbs., and have on hand yet between 350 and 400 lbs. What I have sold brought me $299.61; had to sell it for 12½ and 15 cents per lb. My expenses were $82.77. Five of my earliest swarms went off—took to the woods—last spring.

J. A. KENNEDY, 75.

Farmingdale, Ill., Jan. 16, 1884. *Per Louisa.*

WHAT A WOMAN CAN DO IN THE WAY OF ASSISTING TO KEEP BEES.

During this last season I wired 308 frames; put the foundation in, put together most of the section boxes we used; helped take off all the honey, and cleaned off most of the sections of honey, ready for market. It is no small job to clean off so many sections, *besides* holding the smoker. So you see I have had something to do to occupy my idle moments.

L. C. K.

You see, friend Louisa, I do not know whether to consider you a juvenile, or our good friend Kennedy's "helpmeet." But at any rate, I am glad to know he has somebody who can help him about his bees, and write his letters in so good a hand as you do. In regard to those sections, I think a great many of the bee-friends seem to almost ignore the fact that we may so protect the sections when put on the hives, that the bees have very little chance to soil them. Many of the cases designed for setting over the hives permit the bees to go right up on the underside of the section. This I would never allow; and, as you notice, our crates and wide frames are all made with a view of keeping the section as clean as when it left the saw-table.

FROM KANSAS.

I thought it was time I sent in my report. I commenced in the spring with 23 colonies. Some of them were very weak, and I have increased to 51, and got 900 lbs. of comb honey. I got 15c. for the extracted, and 20 for the comb honey. I have sold 3 colonies at $8.00 apiece. I left my bees all on their summer stands. We have had a very fine fall and winter till Jan. 1, and then it blew up cold, and stormed very severely. I was uneasy about my bees for two weeks. I was very glad when it turned off warm again, so they could fly. They are all right yet. It was 24° below zero. I am going to have my bee-yard look nice. I set out 100 grapevines last spring, and they grew nicely, and this winter I got a nice fence around them. I think bees will do well here, if they are attended to as they ought to be. Last summer I attended to my bees, and did my housework too; but I think I shall have to have some help this season, if my bees do not all die. Last fall I took some bees and honey to our county fair, and I got the premium on honey, but they would not give a premium on bees. I will report again in the spring.

MRS. MALINDA A. WILKINS.

Seneca, Nemaha Co., Kan., Jan. 17, 1884.

Notes and Queries.

I WANT to get a number of colonies early in the spring, and would like to correspond with some bee-keepers near me as to price.

D. W. BARTHOLOMEW.

Bridgewater, McCooke Co., Dakota.

No report, further than that the ½-lb. bees and queen purchased of you in July, 1882, have increased by natural swarming to five strong colonies.

Weston, O., Nov. 30, 1883. ED. BAGGALEY.

GEO. W. HOUSE'S HONEY-RACK — A DESCRIPTION WANTED.

Geo. W. House claims to have the best honey-rack in existence. Please have him describe it in GLEANINGS.

JAMES SPENCER.

Woodburn, Iowa, Jan. 10, 1884.

"TAKE NOTICE" LABELS—A CAUTION.

I would suggest that your "Take Notice" label for extracted honey contain caution about overheating. I have frequently known honey to be nearly spoiled in melting. I would like some of the labels if so printed.

H. D. BURRELL.

Bangor, Mich., Nov. 24, 1883.

A SUGGESTION IN REGARD TO FRIEND STURWOLD'S HONEY-CASE—SEE PAGE 11.

Regarding Sturwold's show-case for honey, I would say to you, if you would put a common looking-glass in the inside of the door it would make a better show.

L. T. COLBY.

Enfield Ctr., N. H., Jan. 11, 1884.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, FEB. 1, 1884.

Neither pray I for these alone, but for them also which shall believe on me through their word.—JOHN 17 : 20.

DON'T send us any more back numbers of GLEANINGS of any kind. I guess there must be a good many of the friends who wanted the ten cents more than they did their back numbers, by the way they came flying in.

IN our last issue the types made us say, in speaking about wire on spools, "2½ feet for one cent," where it should have been 21½. No. 25 spool has 215 feet. It was all owing to the types, of course. We all know how to "figger" here.

WE are still out of spider-plant seed. Who has any fresh seed that they are sure will grow, and what will they take for it? By the way, would it not be a good plan for somebody to go into the business of raising seeds of these staple honey-plants, that we may know where to get a supply next year?

DEAR me! what troubles we do have! Twenty thousand price lists have just been printed, and in every one the price of alsike is put at the old last year's figures—$15.00 per bushel, when it ought to be $10.00. Probably we shall not have a very large trade in alsike, unless our patrons are subscribers to GLEANINGS.

THE *Bee Keepers' Magazine* for January comes to us in new type, on new paper, greatly enlarged, and so much improved throughout that we hardly knew it. It came to us rather late in the month, it is true; but as GLEANINGS has been rather on the late style, we think we won't make any comments. Our enlarged printing-office, with eight hands hard at work, does not seem to be equal to the demand for circulars, labels, and price lists.

FRIEND C. S. ADAMS, of Williamson, Wayne Co., N. Y., has a quantity of alsike and timothy, mixed. Perhaps one-third part of the mixture is alsike. The seed is otherwise clean; but as the hulls are off from a great part of the timothy, it is next to impossible to separate it. Neighbor H. says he thinks, however, that timothy will grow just as well. Anybody wanting such a mixture might correspond with friend Adams. He thinks it ought to be worth about $5.00 per bushel.

WOODEN SEPARATORS.

THESE seem to have lost favor. Dr. Besse mentioned at the convention, that although he made and sold a great many of them, he had discarded them. The principal objection seemed to be that they will warp. This might be obviated by making them thicker; but this would increase the expense, and also occupy valuable room in the brood-apartment. If separators must be used, tin seems to be the best material to occupy little space, without being affected by the dampness of the hive.

WE have been shipping bees to Florida to-day, this 29th of January. So far as we have examined, our bees have gone thus far through the winter beautifully.

DID you ever! "Willie" tells us we have now 5822 subscribers, and it is not yet quite the first of February, either. You have given us over 1500 names during the month of January. Well, well! We shall have to print a larger edition, and shall also be able to make some other improvements for your benefit, which we had intended. Many thanks to you, each and all.

THAT 6-HORSE-POWER ENGINE AND BOILER.

THE one we mentioned last month was sold almost as soon as the journal was out, and two more friends wanted it. Well, after some correspondence with the manufacturers, I have been enabled to offer a brand-new one, same kind, for $325. It is all fitted out with governor, pump, check valve, lubricator, oil-cups, glass gauge, heater, stack, and spark-arrester; and while it gives fully 6 horse-power, our pony Jack drew it easily over the snow on a pair of bobs. It is a very pretty-looking machine, and we consider it a bargain at the price mentioned.

BOUND BACK VOLUMES OF GLEANINGS.

IN moving a great stack of these we found that we have quite a quantity of volumes 1, 2, and 4, of GLEANINGS; Each volume is well bound together with brass clips. They are in a very convenient shape to read, and contain some excellent communications, besides many illustrations, volume 4 being fully illustrated on the cover, as some of the friends may remember. Now to get these out of the way, we well sell them, as long as they hold out, for 35 cents per volume, postpaid. They are for the years 1873, '74, and '76, respectively. If they are wanted by freight or express with other goods, only 25 cents pen volume.

OLD BEE-JOURNALS AT 3 CTS. APIECE.

WE have bushels and bushels left yet, dear friends, and many of them contain very valuable articles from some of our best contributors. They are also illustrated with engravings that cost hundreds of dollars. Now, we are glad to let you have them at 3 cts. apiece, and we will sort them, also, so that no two are alike. But we can not very well sort out special numbers here and there, at this very low price. Perhaps the better way would be to send about the money you want to expend on them, and we will forward them, no two alike — that is, providing you do not send for more than about $3 00 worth at a time.

SINCE the article on page 89 was written, we have received, through the kindness of W. P. Henderson, "Huber's Natural History of the Honey Bee." On the first page are some most excellent steel-plate engravings, colored, of the queen, drone, and worker. In fact, I doubt if there is any thing so good in any modern work on bee culture. Underneath the cuts is the following: "A new edition, with a memoir of the author, and appendix. London: Printed for Thomas Tegg, 73 Cheapside, 1841." The appendix is by Peter Huber. Is it not possible that there are some descendants of Huber still living? The maiden name of Huber's wife should have been printed Lullin, instead of the way we did last month. We had to "guess" at it.

IN C. C. Miller's remarks in regard to narrow sections without separators, he discussed Heddon's crate against the wide frames; and although he does not say so, I presume he means to include all other crates, as well as Heddon's style of crate. Our own crate, figured in our price list, which we have sold for years, has always been furnished with separators or without, as customers prefer. We can also make them, with very little trouble, with narrow sections, to be used without separators. To do this, we make sections about 1 11-16 inches wide, and thus get 8 rows of sections instead of 7 — or 32 sections to the case. All the change needed is to have 8 bottom-bars to the case, instead of 7; and any case already in use can be easily changed over, if narrower sections are found preferable. For the present, the price of these narrower sections will be the same as the regular width — 1⅞ inches.

WHAT MAN HAS DONE, MAN CAN DO.

OUR reports in the "encouraging department" are encouraging in this way: They show not only what one *man* has done, but they show what many boys and women have done, and that, too, with but little experience. It is true, they had the teachings of the A B C book, or some other manual or journal; but the fact that great numbers report having made a good paying result, even from a first season's work, and often with only a single colony for a start, points unmistakably to the fact that thousands can gain the needed outdoor exercise, and take recreation in the open air, without the probability that it will be a dead loss of time. It also demonstrates that there are localities scattered here and there all over our land, where bees may do splendidly. Though these reports, as you will observe, seem to be confined to no particular State or climate, they are to me exceedingly encouraging, and I thank God over and over again as I read them. Not only do they tell of health and happiness, but of the bountiful rewards for the labor that has been bestowed; and through it all there seems to be a spirit of thankfulness to the Giver of all good.

SEND IN YOUR ORDERS NOW.

THERE is a letter on my table now from a friend who accuses me of being the means of causing him to lose his honey crop, because his order was delayed 15 days. He admits it was sent us in the height of white-clover bloom. Now, friends, there is a moral here. If you wait till white clover is fully in bloom, I can by no means agree to be responsible for the consequences of delays of 15 days, or twice that, for that matter. Our price list, since it was first published, has notified you that we could not be responsible for delays on orders received during the honey months. If you order now, however, we can usually send the goods with reasonable promptness. Will it not be best to have things ready long before the honey season commences? Of course, we shall do our best to be prompt at all seasons. We have stock of almost every thing likely to be needed, stacked up in our new rooms, and in the warehouse, equal to all that will be wanted during the season — or, at least, we think so. There is going to be trouble on sections again, for we can not get our basswood seasoned during the winter months. We have a fine stock of beautiful sections piled up in the warehouse; but the way they are moving off, they can not last very long. Better send in your orders pretty soon, if you do not want to be troubled by delays.

FOLKS THAT WON'T ANSWER.

BEFORE me are two letters — one from a gentleman, and one from a lady, and both most vehemently protest against the measures we take to make people answer. We had written to both of these people at different times, through a period of over six months, without getting a word in reply; but finally, when we took measures to make them reply, they "talked with a vengeance," I assure you — especially the lady. Now, friends, will you please listen a moment to reason? We have deal now with more than ten thousand different people, scattered all over the world. When any one of these ten thousand is owing us, and does not pay, we write him to know what the trouble is. If he replies either by remittance or by explanation as to why it is inconvenient to pay, we seldom have any hard feelings or trouble. By the way, one feature has developed here that is to me a little singular. People who answer letters, always pay; and this rule has so few exceptions that our clerks have instructions not to crowd anybody who replies promptly every time he is written to. It seems to me there is quite a moral lesson here. One who feels anxious about his good name is always willing to take the time to protect it; but one that would just as soon defraud his fellow-men as not, does not often take the pains to reply. I do not mean to say by this that *all* people who do not reply are dishonest, but only that they are certainly very unwise. Well, now, as our book-keepers must have some regular rule to go by, they are instructed, when they have sent three statements, and get no reply, to make inquiries of the person, of some one else. I know it is not pleasant to have people inquiring about your responsibility. But, what else can we do? Can you suggest any other means for us to get along with business? Of course, you may say, "Stop trusting people." But with the varying prices of things, how can we avoid balances either one way or the other? and who would want some goods he was needing badly, held because his money lacked a little? The gentleman and lady I have spoken of both said they were intending to send the amount due when they made another order. Now, this would have been perfectly satisfactory, had they just penciled the one brief sentence on a postal, in answer to our statements. How are we to know what you purpose doing, if you don't tell us? In other words, why do you not "*say so*," and thus save all this trouble, lengthy correspondence, and unkind feeling?

BASSWOOD, MAPLE, AND ELM
TREES.

One foot and under, per hundred	$1 75
One foot to five, per hundred	4 50
Five feet to ten, per hundred	8 00
Simplicity and L. hives in the flat	50

N. E. DOANE,
3d Pipestone, Berrien Co., Mich.

PLYMOUTH ROCKS AND BROWN LEGHORNS. Eggs $1.50 per sitting. Address T. GRAHAM ASHMEAD, Williamson, Wayne Co., N. Y.
3-5-7d

Tested Queens, $2.00.

Untested, $1.00. 4-frame nuclei, $3.50 and $4.50.
OSCAR F. BLEDSOE,
3-5-7-9-11d Grenada, Miss.

SILKWORM EGGS. Send 10 cents for enough to make a start. Address MRS. T. G. ASHMEAD, Williamson, Wayne Co., N. Y. 3-5-7d.

MAKE YOUR OWN FDN.

My foundation-molds have given good satisfaction for 3 years. 5 to 20 feet to lb. Used and praised by leading bee-men. Price $3.75 for L. size, or 12x12. Circulars free. OLIVER FOSTER,
3tfd MT. VERNON, Linn Co., Iowa.

WANTED!

A second-hand Barnes Foot-Power Saw. Parties replying must give full description, and furnish well-known references. Address
GEO. E. BOGGS,
3d SONOMA, Haywood Co., N. C.

Bee-keeping in Texas!

Any one wishing to engage in bee-keeping in an excellent location and healthy climate, can now invest with small capital. I have for sale an apiary of 20 colonies, in good condition, with extra hives, fdn., extractor, honey-kegs, and all appliances for profitable bee-keeping, near a good market. My reason for selling is, that I can find no one to take charge of the apiary. For description and terms, address
WM. L. STILES.
3d 714 Congress ave., Austin, Texas.

HEDDON'S CIRCULAR

Can be had by sending your address to
JAMES HEDDON, Dowagiac, Mich.
☞State if you had his for 1883. 3tfd

ORANGE GROVES made for non-residents. Address, with stamp.—
3-5d S. P. SHEPHERD, Altamonte, Orange Co., Fla.

IMPORTED QUEENS.

In April,	11 francs in Gold.
May and June,	10 " " "
July and August,	9 " " "
September and October,	7 " " "

No order received for less than 8 queens. Queens which die in transit will be replaced only if sent back in a letter. CHARLES BIANCONCINI & CO.,
3-5-7-9-11-13d Bologna, Italy.

Dadant's Foundation Factory, wholesale. See advertisement in another column.

DECLINE IN WIRE NAILS.

Till further notice, we will furnish wire nails at the following prices. These prices are to be taken in place of those in the price lists we have been sending out.

PRICE LIST OF WIRE NAILS.

L'gth of Nails	No. of Nails in lb.	Size of Wire.	Put up in five-cent Packages	Price. 1 lb	10 lb	100 lb
¼ in.	12,500	No. 21	per oz. 5c	50 c.	$4.00	$35.00
⅜ "	10,000	" 21	" " 5	35	3.00	27.50
½ "	6,000	" 20	" " 5	25	2.20	20.00
⅝ "	4,400	" 19	2 " 5	18	1.60	14.75
¾ "	2,750	" 18	2 " 5	15	1.40	12.75
⅞ "	2,250	" 18	3 " 5	14	1.30	12.00
1 "	2,000	" 18	3 " 5	14	1.30	12.00
1¼ "	1,000	" 17	3 " 5	13	1.20	10.75
1½ "	650	" 16		12	1.10	10.00
1¾ "	450	" 15		11	1.00	9.75
2 "	240	" 14		10	.95	9.00
2¼ "	225	" 13		10	.90	8.75

A. I. ROOT, Medina. O.

FOR SALE!

QUEENS, BEES, COLONIES, COMB FOUNDATION, BROOD AND WIDE FRAMES, SHIPPING-CRATES, HIVES, HONEY-EXTRACTORS, HONEY-KNIVES, BINGHAM SMOKERS, PRIZE HONEY-BOXES, AND EVERYTHING A LIVE BEE-KEEPER NEEDS.

☞Send us an order, and we will please you, we know. Price list sent on application.

F. A. SALISBURY & Co.,
GEDDES, ONONDAGA CO., N. Y.
2tfd-b

Bee-Hives and Sections!

NEW SHOP AND NEW MACHINERY.

The Largest Manufacturer of Bee-Hives, Sections, etc., in the World.

Our capacity now is a carload of goods daily. Hives manufactured from soft white pine, and Sections from white basswood.

Send for our new illustrated price list for 1884. It is very important you should have our new list before ordering, as prices are arranged differently from last season.

G. B. LEWIS,
1tfd WATERTOWN, - WISCONSIN.

BUCK & SWALLOW,

Manufacturers and Dealers in
APIARIAN SUPPLIES,
And importers of Italian Queens, &c.,
2816 Missouri Avenue, ST. LOUIS, MO.
Send for circular and price list. 2tfd

FOR SALE!

As early as wanted in the spring, a large number of swarms of

ITALIAN AND HYBRID BEES.

Bees and Queens in their season cheap. After July 1st, almost given away. Address,

1tfd-b A. W. CHENEY, Kanawha Falls, W. Va.

ITALIAN BEES, QUEENS,

Comb foundation, as cheap as the cheapest, and good as the best. Send for circular to

W. H. PROCTOR,
3d Fairhaven, Rutland Co., Vt.

BEESWAX WANTED!

Will pay 32c. per lb. for clean yellow wax, delivered here.

A. F. UNTERKIRCHER.
1-3d Manchester, Washtenaw Co., Mich.

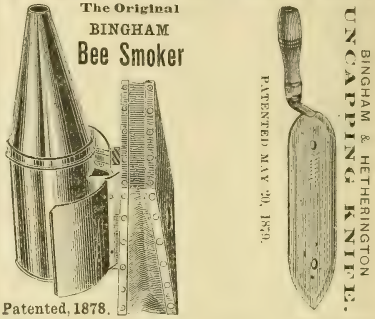
MUTH'S HONEY EXTRACTOR,

SQUARE GLASS HONEY JARS,
TIN BUCKETS, BEE HIVES,
HONEY SECTIONS, &c., &c.

Apply to CHAS. F. MUTH, CINCINNATI, O.

P. S.—Send Stamp of 10c for "Practical Hints to Bee-keepers." 1tfd

VALUABLE ORIGINAL PATENTS.



Prof. Cook, in his valuable Manual of the Apiary, states that "Mr. Bingham was the first to improve the old Quinby smoker by establishing a direct draft." Five years of persistent effort has demonstrated that no one but Bingham has been able to improve a Bingham smoker. Hundreds of Bingham smokers have been in use five years, and are yet in working order. They burn lots of blocks and chips and stuff, and make lots of smoke and comfort, and have no dampers or match-box attachments, as they never go out or fail to blow smoke up or down or sidewise, much or little, swift or slow, just as you please, any or all the time; top up or down, they always go!

Bee-keepers will save money and vexation by buying genuine Bingham smokers and Bingham & Hetherington Uncapping-Knives first. We neither make nor handle any other supplies; but of these we are the original inventors and only legal makers, and have had over forty-five thousand in use from one to five years, and receiving but one letter of complaint.

With European and American orders already received for over three thousand, there is evidence that 1884 with us is not likely to be an idle one. Also that such goods as we make have met the advanced wants of the most advanced bee-keepers in Europe and America.

For mail rates and testimonials, send card. To sell again, send for dozen rates to

BINGHAM & HETHERINGTON,
3-5d **Abronia, Mich.**

FRUIT AND HONEY.

20 BLACK TARTARIAN CHERRY-TREES BY Express for $1. *Well packed.* These are from two to four feet. Can send 20 small ones by mail postpaid for $1.

CHAS. KINGSLEY,
11tfd-b Greeneville, Greene Co., Tenn.

PRICE LIST OF ITALIAN QUEENS AND BEES,

And Bee-Keeping Fixtures, sent free to any address.

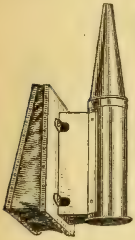
GUYTON BROS.,
2-3-4d **Waco, McLennan Co., Texas.**

BEE-HIVES! BEE-HIVES!

Simplicity, Langstroth, and Chaff Hives, Section Boxes, Brood-Frames, and Comb Foundation. Send for price list. The successors of A. B. Miller & Son.

MILLER BROS.,
1-3-5d NAPPANEE, Elkhart Co., Ind.

NUCLEUS COLONY with Italian queen after June 1st for only $3.00. Samples of Business cards, 2c. J. L. HYDE, Pomfret Landing, Conn. 12½tfd.



NOW READY!

NOW READY!

To fill orders for **500** of those splendid U. S. Standard Honey-Extractors, and 2000 of the new improved Bee-Smokers. Extra discounts in Dec., Jan., and Feb., both wholesale and retail, on all kinds of Apiarian Supplies. Agents wanted. Send for circular. **E. T. LEWIS & CO.,**
12-5d **Toledo, O.**
Factory, 36 Monroe St.

GEORGE W. BAKER,
—OF—
Lewisville, Henry Co., Ind.

is still breeding those fine Italian Queens whose progeny are wonderful honey-gatherers; also dealer in APIARIAN SUPPLIES, and breeder of nearly all of the finest breeds of Poultry. Also, eggs for sitting. 3-2d

---

BEES FOR SALE!

A large lot of Black Bees for sale cheap, all in good condition. Address P. H. KING,
12½tfd-b Henderson, Henderson Co., Ky.

VANDERVORT
COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfd JNO. VANDERVORT, Laceyville, Pa.

[C. H. DEANE, formerly of Mortonsville, Ky.]

SIMPLICITY HIVES
......FOR 1884.......

200,000 FEET CLEAR LUMBER,

Large Capacity for Manufacturing.

Best workmanship guaranteed. Send for estimates on car loads to the trade. We can please you.
Address—

DEANE, RODMAN & SNEED,
FRANKFORT, KY.,
Or, C. H. DEANE, Jett, Franklin Co., Ky. 1-3-5d

BE SURE

To send a postal card for our illustrated catalogue of

APIARIAN SUPPLIES,

Before purchasing elsewhere. It contains illustrations and descriptions of every thing new and desirable in an apiary,

AT THE LOWEST PRICE.

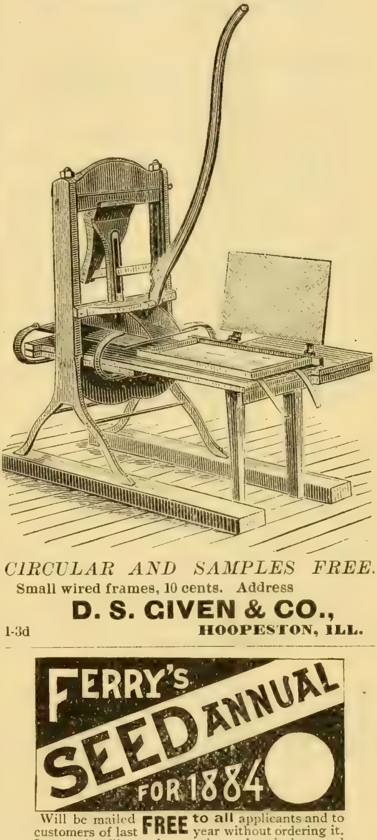
Italian Queens and Bees.

J. C. SAYLES,
HARTFORD, WASHINGTON CO., WIS.
1-3-5-7-9-11d

BEE-KEEPERS' SUPPLIES.

It will pay to get our prices before purchasing supplies; good Langstroth hives, with 8-inch cap frames, in the flat, 60 cts. each; Langstroth winter-protector, in lots of 50, $1.50 each; small lots, $1.75, all in the flat. Manufactured of good pine lumber. Workmanship unexcelled. Crates, sections, and foundation. **WM. O. BURK,** 8tfd
Successor to Hiram Roop. Crystal, Mont. Co., Mich.

GIVEN
FOUNDATION PRESS
—AND—
WIRING MACHINE.



CIRCULAR AND SAMPLES FREE.

Small wired frames, 10 cents. Address

D. S. GIVEN & CO.,
1-3d **HOOPESTON, ILL.**

FERRY'S SEED ANNUAL FOR 1884

Will be mailed **FREE** to all applicants and to customers of last year without ordering it. It contains illustrations, prices, descriptions and directions for planting all Vegetable and Flower Seeds, Plants, etc. **Invaluable to all.**
D. M. FERRY & CO. DETROIT, Mich.

---

200 COLONIES OF
ITALIAN BEES FOR SALE.

TRY OUR IMPROVED ITALIANS.

Send for Price List. Address

Dr. G. W. Young, or C. F. Lane,
12-1-3-4-5d **LEXINGTON, MO.**

BEE-HIVES,

CHEAP! CHEAP!

Simplicity and Heddon hives and cases. The last named, a *specialty*. One-piece sections, foundation, smokers, etc. Send for price list.

J. J. HURLBERT,
3-5-7 9-11-13d **Lyndon, Whiteside Co., Ills.**

LANGSTROTH, SIMPLICITY,

—AND—

CHAFF HIVES!

And supplies, made to order. Send for price list for 1884.

3tf d **S. D. BUELL, Union City, Mich.**

SIMPLICITY HIVES, 50 CTS.

I will furnish Simplicity hives, with 10 frames and cover, all ready for the bees, at 50 cts. per hive. The same in the flat, 40 cts. per hive. Nucleus hives with 2 frames, 30 cts. per hive. Double-story Langstroth, with 20 fr., $1.00 per hive. Single story, with 10 fr., 50c. 1-lb. sections, $3.75 per 1000, all made of good stuff. Satisfaction guaranteed. Orders solicited.

T. A. GUNN,
3-5-7-9d TULLAHOMA, TENN.

LOOK!

35 3-frame nuclei to be shipped at one time, about the 1st of May. I sell bees cheap. I must have the cash. Order the 1st of April. Write me at once for particulars. IRA D. ALDERMAN,
3 Clinton, Sampson Co., N. C.

COMB FOUNDATION.

Wax worked by the lb. on shares, or for sale, on the Given Press; size of dies 9x16 inches. Italian bees a specialty. A few black and hybrid colonies for sale. Send a card for prices; 200 bushels onion-sets; 2000 asparagus roots; strawberry and raspberry roots; W. Russian oats, and Champion potatoes. Send for descriptive price list. Lose no time, but send your orders early.

5-7-9d A. J. NORRIS, Cedar Falls, Ia.

BEE HELP WANTED.

Two or three live young men wanted, to learn bee-keeping. Can give plenty of reference and practice, and the benefit of 26 years' experience.

S. I. FREEBORN,
3-5-7d Ithaca, Richland Co., Wis.

DADANT'S FOUNDATION FACTORY, WHOLESALE. See advertisement in another column. 3btfd

---

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Geo. W. House, Fayetteville, N. Y., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON.
3btfd. Hamilton, Hancock Co., Ill.

DUNHAM COMB FOUNDATION.

We have bought a large stock of choice yellow beeswax, and can furnish Dunham Comb Fdn. for brood comb, cut to any size, for 48c. per lb. Extra thin and bright yellow fdn. for sections, at 55c. per lb. We will guarantee our fdn. to be made of pure beeswax, and not to sag. Will pay 30c. per lb. for yellow wax, or will work it up for 10c. per lb. To induce our customers to order fdn. early in season, we will allow 8% discount on all orders received before the first of March. Address orders at once to

F. W. HOLMES,
1-3-5-7-9-11d Coopersville, Ottawa Co., Mich.

SMITHS' PRICE LIST

FOR 1884.

If you want any thing in the line of BEE-KEEPERS' SUPPLIES, send for our Illustrated Price List before you buy. Special attention given to the *Simplicity One-Piece Section.*

The Triumph Hive,

also Simplicity and Langstroth Hives, Smokers, Comb Foundation, etc. SMITH & SMITH,
2tfd Kenton, Hardin Co., Ohio.

CANADIANS, send for our illustrated catalogue and price list of Apiarian Supplies. Address

M. RICHARDSON & SON,
1-3-5d Port Colborne, Ont.

MAMMOTH RUSSIAN SUNFLOWER SEED, 10c per packet. Stamps taken. Address
T. GRAHAM ASHMEAD, Williamson, Wayne Co., N. Y.
12 1 3 5 7 9 11 13d

ALBINO AND ITALIAN QUEENS, BEES AND SUPPLIES FOR 1884

HEADQUARTERS FOR THE ALBINO.

For beauty, for kindness, and for large yields of honey, the Albino bee ahead. Last season we increased one colony to 6, from which we took 500 lbs. of comb honey, and all had abundant stores for wintering. We have a heavier stock of bees than ever before, and will be able to furnish queens in large numbers. We have also added to our buildings, and increased our facilities for Hives, Comb Foundation, and Apiarian Supplies generally. Send for Price List. Please write your address plainly. Address

3 5 7d **S. VALENTINE, Hagerstown, Washington Co., Md.**

ESTABLISHED 1855.

BEES HEADQUARTERS WAX

We have constantly on hand a large stock of Domestic and Imported beeswax in original shape, which we offer to manufacturers of Comb Foundatation at lowest prices. Write to us for prices. Address

R. ECKERMANN & WILL,
Beeswax Bleachers & Refiners, SYRACUSE, N. Y.

3 5 7 9 11 13d

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KIND WORDS FROM OUR CUSTOMERS.

The 10-c specs fit exactly, and the shears are excellent for the price. A. DEWEY.
Marshfield, Pa., Feb. 1, 1884.

The A B C is a beauty, and I am well pleased with it. HENRY M. KELLER.
Burlington, Ind., Jan., 1884.

The A B C is a better book than I expected for the money, and that Clark smoker is "just boss." H. J. SHAPLEY.
Copapa, Lorain Co., O., Jan. 25, 1884.

I received the 50-cent back saw I sent for in due time. I was surprised to get one so good for the money. J. J. WILSON.
Hamilton, Ohio, Jan. 25, 1884.

I like GLEANINGS ever so much. I always feel more like doing as I should like to be done by after reading it. J. S. CUMMINGS.
Brooklyn, Iowa, Jan. 31, 1884.

OUR 25-CENT BEE-KEEPER'S HAMMER.

Hammer is received all right; am more than pleased with it. I do not know but I shall send for another. G. H. HOYT.
Otisco, N. Y., Jan. 17, 1884.

I sent you the names of four new subscribers for 1884, and you sent them the Dec. No. It is all right, but it is more than I expected. I have received the A B C as premium, and am more than pleased with it. The 11 cents my due I intended as postage on the book. W. E. TURNER.
Ulysses, Pa., Jan. 6, 1884.

The A B C came all O. K. It is certainly the best work on bee culture for beginners and the experienced that ever was published. Although I have had eight years' experience in handling bees, I find something new almost every time I peruse its pages. It should be in the hands of every bee-keeper.
Three Groves, Neb., Jan. 30, '84. J. M. YOUNG.

CLEAN SEEDS.

I received the alsike seed all in good order and full weight. I was surprised to find it so clean and free from weeds—something uncommon, in this part of the country at least. It is a pleasure to give an order when it is filled so promptly. A. J. HAYNER.

[Friend H., we are trying hard to have our seeds, all of them, always like what you got. But it is a pretty hard matter. We are now talking about a seed-house with the latest improved machinery for cleaning our seeds, and proper arrangements for testing them.]

I am pleased with the moral tone of your periodical. "We be brethren." I quit smoking Sept., 1881; quit for conscience' sake. Yours in Christ. JOSEPH K. RANKIN.
Charlotte, N. C., Jan. 8, 1884.

[Friend R., may God bless you for your kind words. Your text, "We be brethren," awoke a pleasant thrill, although it was some little time before I recognized it with the help of the proof-reader. I am quite sure it would not hurt us to use such words oftener; and then when you came to that remark about the reason why you gave up tobacco, I felt like saying, "Thank God, friend R. We be most truly brethren indeed."]

FRIEND WORTH'S BASSWOOD-TREES AT LOW PRICES.

Allow me to say in GLEANINGS, that I purchased a large lot of basswood-trees of Mr. Worth, of Borodino. They came in excellent order, and gave the best of satisfaction. J. VANDERVORT.
Laceyville, Pa., Feb. 5, 1884.

[I am glad indeed to hear that friend W. understands taking up and shipping basswoods, for no one can confer a much greater boon on the bee-keeping world just now than he who encourages and helps to make the business of basswood planting a success.]

The Clark smoker and seeds received all right. Goods received from your house are the best packed I ever saw. I wish I lived nearer, so I could get all the modern appliances in bee culture. But at the present high rates in freight, it will not pay me to do so. Freight on my extractor to Cincinnati, $1.00, and from there to Lake Weir station, $1.42. GLEANINGS comes promptly, and every number gets more interesting and instructive. Wishing yourself and that baby-boy—for whom I have quite an interest, mine is some older—a happy new year, I remain,— MRS. BELLE MCMAHAN.
South Lake Weir, Marion Co., Fla., Jan. 2, 1884.

I have kept bees for over 30 years in very many kinds of hives, and have never found one that suited me until I got the Simplicity. I am pleased with that, and all its fixings. I have used them for over two years. My bees have done well in them. We took from them, last summer and fall, 400 lbs. box honey, and 150 of extracted, and might have got much more if we could have attended to it as we ought. My son-in-law, Hiram Denton, lives with me, and has the care of the bees mostly. We have taken GLEANINGS for over two years. We watch for it as a cat does for a mouse, and it is read from beginning to end. It is all right—just what we want.
Nicholville, N. Y., Jan. 14. HOSEA CARR.

A HOPEFUL LETTER.

The two glass-cutters are replaced to Mr. Alden. I am glad you did it, for I am anxious that your reputation shall be just what you want it to be, and I am satisfied your clerks are trying to do right too. If every one I deal with would treat me as you have done, I should be a happier man; but I have found every bee-man whom I have had dealings with, willing to do right. Some of them have offered to overstep the bounds of justice to themselves. Bee-keeping is calculated to moralize any one who will engage in it, if not Christianize them.
Vanceburg, Ky., Jan. 9, 1884. M. L. WILLIAMS.

[Friend W., I had to laugh when I read your kind letter, and remarked to the proof-reader that you must be like the chap who always got among such good neighbors, that I have been telling the children about a few pages back.]

I admire the business part of GLEANINGS, and like Our Homes very much, and pray God they may be seed sown on good ground, as I think there is great need for the spread of the good news, and many will read Our Homes who would neither attend worship nor take a religious periodical. I am away off in North-western Iowa, on a new place, and am short for means, but in good cheer. I am a one-handed man, and make my own hives, frames, etc. I built the house I live in—a frame, 12-ft. posts. How many one-armed patrons have you?
Correctionville, Ia., Jan., 1884. J. M. PORTER.

[Friend P., I can not say how many, but I know there are several, for I remember hearing them tell how they managed bees with one arm. Friend Robertson, of Pewamo, Mich., one of the most successful bee-men among us, is a one-armed man, and it is said he does more work than most men do with two good hands. He opens hives, handles bees, and does every thing.]

SEED POTATOES!—Send for my price list of new and standard varieties. Address
L. F. DINTELMANN, Belleville, St. Clair Co., Ill.

DADANT'S FOUNDATION FACTORY, WHOLESALE. See advertisement in another column. 3btfd

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

NEW YORK.—*Honey.*—After the dullness around the holidays, the market opens up bright and active; although the prices are kept low, we think there will be a fair demand until May, and this is just what we want to see, as our market is well stocked. We quote:

Fancy white 1-lb. sections, paper boxes	20c
" " 2-lb. " glassed...........	16@17c
Fair " " " "	14@15c
" " 1-lb. " no glass..........	16@17c
Fancy buckwheat, 1-lb. secs., no glass........	14@15c
Ext., clover and basswood, in kegs or bbls..	8½@ 9½
Extracted, off grades, in kegs and barrels....	8@ 8½

Beeswax is in good demand at 35@37c. for prime Southern; West India and Cuban at 31@35c.

THURBER, WHYLAND & CO.,
Feb. 9, 1884. Reade & Hudson Sts., New York.

ST. LOUIS.—*Honey.*—We have no improvement in honey market to note since our last. Extracted, very dull in barrels; some little retail demand in small cans, say from 1 to 2 gallon. We quote in barrels, 7 to 7½c; in small cans, 10c. retail. Comb, only a retail demand, unless at very low prices. Retail, 1-lb. sections in good order, 16c. White clover would bring 18 to 19c., if in nice order, and no combs broken. 2-lb. sections, from 13 to 15c.

Beeswax, not much arriving. Yellow, 35 to 37½c. Very little dark on the market; nominally about 32 to 33c. Look for higher prices.

W. T. ANDERSON & CO.,
Feb. 9, 1884. 104 N. Third St., St. Louis, Mo.

CHICAGO.—*Honey.*—Comb honey is being taken in a small way. Prices are without change of special note for the best grades; off grades are slow at almost any price. Extracted honey, 7 to 10c.

Beeswax scarce at 30 to 36c. per lb.

R. A. BURNETT.
Feb. 8, 1884. 161 South Water St., Chicago, Ill.

CLEVELAND.—*Honey*.—Has been quite dull the past two weeks, but prices unchanged. Best white, 1-lb. sections, 18 to 19c; 2d quality, 15 to 16c; 2-lb. sections, best, 16 to 17c; 2d quality, 14 to 15c. Extracted, no sale.

Beeswax.—Nominally 30c., but none offering.

A. C. KENDEL.
Feb. 9, 1884. 115 Ontario St., Cleveland, O.

KANSAS CITY.—*Honey.*—Demand for choice white comb, 2-lb. sections, is good, and stocks extremely low. Large lots would find ready sale at 17 to 18c. Dark comb not wanted at all. Extracted in fair demand for fall honey at 8 to 8½c. White and candied honey not salable.

Beeswax.—None to quote.

JEROME TWICHELL,
Feb. 8, 1884. Honey Depot, 514 Walnut St., K.C.

BOSTON.—*Honey.*—No change in price of honey.

BLAKE & RIPLEY,
Feb. 9, 1884. 57 Chatham St., Boston, Mass.

FOR SALE.—One barrel of clover honey, 10c. per lb. net. Free on board cars here.

I. Y KEZARTEE,
Ceresco, Calhoun Co., Mich.

I have about 5500 lbs. of nice white-clover and basswood honey, in kegs and barrels, for which I will take 9c. per lb., delivered at R R. depot, package thrown in.

T. W. LIVINGSTON,
Ainsworth, Washington Co., Iowa.

Dadant's Foundation Factory, wholesale. See advertisement in another column.

BEST SUPPLEMENT FOR 1884.

Watch free to everybody who will send me an order for ½ doz. tested, or 1 doz. untested queens. The world-renowned Waterbury watch and one queen, only $4.00. Watch alone, $3.50 by mail. I think I now have the very best strain of bees that have ever been offered at so low a price. It is just the bee that attracts everybody's eye; viz., for beauty, pleasure in working, and large yields of honey. Everybody wants them. Italian tested queen, in April, $4 to $6; May, $3 to $4; June, $2.50 to $3.50; July and after, $2 to $3. Untested, in April, $2; May, $1.50; June, $1.25; July and after, $1. Albinos and Holy-Land queens, my favorites, ¼ more than Ital.

Dealer in scales, comb fdn., Simpson honey-plant seeds, or roots; 70-cent smokers, canary birds, brown Leghorn eggs, $1.00 per 13, and U. S. honey-extractors. Wax wanted. 10% off on all orders before April 15th. Send for circular.

4d D. E. BEST, Best's, Lehigh Co., Pa.

Pure Italian Queens,

Daughters of imported mothers; untested, until May 1, $1.50; from May 1 to Nov., $1.00. Tested, $3.00 and $2.00. Special rates for large orders. Nuclei a specialty.

D. HALL & CO.,
7th Dist. N. O., CARROLLTON, LA.
4-12 inqd-b

DADANT'S FOUNDATION FACTORY, WHOLEsale. See advertisement in another column.
3btfd

For Sale!

A COTTON, GRAIN, and STOCK FARM,

Situated on the Guadalupe River in DeWitt County, Texas, containing 1000 acres, 450 inclosed, and 200 in cultivation. An excellent location for a large apiary. Price $10,000. Correspondence solicited.

J. A. WIMBISH,
4tf-d-b **Cuero, DeWitt Co., Texas.**

BEES. - BEES.

SPRING PRICES:

Italians, - - - - - - - - - $9.00
Blacks, - - - - - - - - - - 8.00

All in Modest 1½-story hives, frames 10⅛x11½. Will work wax up to sizes 12x12 or 9⅝x17⅛, for 15c per lb., or one-third the wax.

C. J. SANFORD, : UNIONVILLE, CONN.

THE ALL-PURPOSE HIVE.

Arranged for continuous passage-ways, continuous combs, no honey-board, no bee-space, chaff and single-walled, no patent. Sample in flat. Given fdn., sections, etc. GEO. F. WILLIAMS,
2-3-4-5 6-7d New Philadelphia, Ohio.

MAKE YOUR OWN FDN.

My foundation-molds have given good satisfaction for 3 years. 5 to 20 feet to lb. Used and praised by leading bee-men. Price $3.75 for L. size, or 12x12. Circulars free. OLIVER FOSTER,
3ttdb MT. VERNON, Linn Co., Iowa.

COMB FOUNDATION.

Having purchased a large stock of choice yellow wax, we shall make a specialty of this branch of our business this season. We also offer general apiarian supplies. Also a choice lot of Italian and Albino bees, bred from our new strains, which gave such good satisfaction the past season.

Send for our price list, and state where you saw this. WM. W. CARY & SON,
4btfd Coleraine, Franklin Co., Mass.

GLEANINGS
IN
BEE CULTURE.
DEVOTED TO BEES, HONEY & HOME INTERESTS.
F.A. Whiting

Vol. XII. **FEB. 15, 1884.** **No. 4.**

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

A TIMELY ARTICLE.

AN EXPERIMENT IN PRODUCING WAX.

WAX is higher, and threatens to go higher yet. The question forces itself into prominence, Can we produce wax with bees kept especially for the purpose? and what does it cost, if produced that way? I ran one of my best colonies exclusively for wax last year, and herewith make returns of the result.

The colony selected was one of a family of colonies that had attracted my attention by rapid and excellent comb-building. Started them off May 4th with 12 Gallup frames in a chaff hive. Three of the frames were empty, except narrow starters of foundation, and these were *interspersed* with the frames of comb, the middle one dividing the brood-nest. Whatever comb was made in these three frames was cut out regularly, before eggs had time to hatch in it. Three days later I made my first cutting of wax. There were four pieces, one of them drone and the rest worker, eggs in both, no honey, one cell only of pollen. The weight of this cutting was somewhat less than ½ oz. The colony on the scales was bringing in from 2 to 4 ounces of honey and pollen per day. I soon learned that once in four days was often enough to cut. The amount obtained at a cutting increased until it sometimes amounted to a whole ounce. The largest amount built, up to that date, was *while the untimely snow of May 21st lay on the ground.* Not enough honey came in during May to have them put any in the new comb; and the pieces would have been nice for starters, and to fill sections with, had I not wanted to melt them up so as to be precise about the amount of wax. May 29th the amount of comb harvested was very small, and they were building queen-cups. June 1st they had built nothing but queen-cells on the starters. Several subsequent examinations showed the same results. June 11th I fed them 3 lbs. of broken honey at the entrance, to induce them to build again. They still refused to build, and, nine days after, swarmed.

The operations of May furnished me with four items of information. 1. Cold weather does not necessarily stop the building of comb. 2. A desire to swarm does stop it. 2. The maintenance of three empty spaces through the hive does not, even in connection with short supplies of honey in the fields, prevent swarming (the total runs of the scale hive for the whole month of May aggregated only 7 lbs. 9 oz.). 4. Feeding does not always eventuate in wax. When they won't build, they won't. At the outset I had put in something over six pounds of honey in the frames of comb.

Comb-building recommenced shortly *before* the colony swarmed. I suppose they wanted some wax to commence with in their new home; and having got it secreted, they used some of it in their old quarters. The bees that remained at the old stand also built a little before the second swarm emerged. The second swarm was lost — not lost to the apiary, but lost to the experiment, by mixing up with other bees. The aggregate runs of honey in June, as shown by the scale hive, figured up 22 lbs., or nearly three times the yield of May; and yet I got less wax. This was owing to swarming on the brain, I suppose. The old stand continued rather remiss in comb-building to the end of the season; but the new colony got to business building comb, and putting honey in it (and pollen too, sometimes), so that my regular harvests in July were, figured in ounces, 2, 2½, 2, 3, 3½, 5, 9, 3, 2. These figures were somewhat too large, as appeared when the wax was melted up; but they serve to give a general idea of the secretion. About 5½ lbs. of honey was taken with the wax. Wax was taken in the same way from the second colony as from the first. I had hived them on combs infested with drone brood, taken from a colony afflicted with fertile workers; which perhaps was not treating them fairly. The runs of honey for July, as per scale, amounted to 25 lbs. 5 oz., only 3 lbs. 5 oz. more than in June. This shows, again, that the amount of wax produced does not always correspond to the amount of honey brought in.

There is chance here for a little computation, although of a very rude sort. The colony may have secured more honey than the colony on the scale did; and the wax cut at the old stand was not kept separate from that of the colony that was doing most of the building; but we shall not be very far off the track to say, that on an income of 20 lbs. of honey, over and above what was taken away from them, the bees in this hive made a pound and a half of wax during the month of July. On the very wild supposition that they turned half their honey into wax, a pound of wax is the equivalent of six and two-thirds pounds of honey. On the much more reasonable supposition, that one-sixth of their honey was used in wax secretion, and five-sixths in brood-rearing and for their own nutriment, a pound of wax represents about two and a quarter pounds of honey.

On the 18th of August my new colony swarmed; and August 29th it gave an after-swarm; so I then had four wax-building colonies. These late swarms I managed in a different way. The after-swarm was allowed to have but one frame of comb, and the other one only two combs. Every bit of comb they built was cut away. This was pretty hard on the future prosperity of the colonies, as they could not raise much brood, for want of comb to raise it in; but it made them "scratch gravel" finely in the business of comb-building. Of course, the way to close up the season would have been to unite these late colonies with the two earlier ones. I regret to confess that I was slow in getting around, and did not realize how soon they would be coming to want; and when I finally looked to them, the weaker colony had all died of starvation, and the other one not choosing to "die and make no sign," had swarmed out and gone off. This loss should not be charged to the experiment, but to the carelessness of the experimenter.

Well, the grand total of wax from one colony and their increase was by weight, 3 lbs. 15 oz. I "allowed" that I had wasted about an ounce in various ways, and called the result an even 4 lbs. The amount of honey taken with the wax was 11 lbs. It so happens that 11 lbs. per colony, spring count, was just the average of my whole apiary. This particular colony would very probably have produced more than 11 lbs. of surplus had they been run for honey, however. Nobody to my knowledge had a good yield in this vicinity last year. In fact, those I know definitely got about nothing at all.

The ten pounds or more of honey I gave my wax colony in the spring must be mentioned. I don't think it increased the yield of wax materially; and at any rate the swarm that was lost may be called a fair "stand off" for that. With a better season, and the experience I have gained, I think I can do better on another trial.

It is well known, that estimating what can be produced by a whole farm from one hill of potatoes or corn is a very unreliable computation; but sometimes such estimates have a certain value, if we eat a sufficient number of grains of salt with them. To figure on the present brood of chickens, 100 colonies, run with equal success, would yield 400 lbs. of wax. This at 33 cts. would be $132.00. The honey, 1100 lbs. (pretty green), at 7 cts. would be $77.00. The increase of 100 colonies would be $ (?). The total income from wax and honey amounts to $209.00; not very much for a season's work; but still, people have done worse. If the fellow should winter with a loss of not over 20 colonies, and sell the odd 80 for a fair price, he would make the year's ends meet nicely. But right there, my countrymen, is a "pint" where the apiarian shoe pinches. E. E. HASTY.

Richards, Lucas Co., O., Feb. 2, 1884.

Friend Hasty, I am very much obliged indeed for the result of that experiment, although I must confess I am greatly disappointed at the result. I expected you would get about 25 lbs. of wax from a single good colony, working that way during a good season, instead of a paltry 3 lbs. 5 oz. However, if your whole apiary averaged only 11 lbs. of honey per colony, it is, as you say, not so very surprising. How many colonies were there in your field, pray? Well, even if it does not pay to run colonies exclusively for wax, at the present price of wax it certainly pays to save all the bits; and one of the chief charms of business to me is the necessity of being saving of every little bit that may be converted into something valuable.

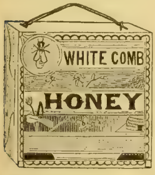
THE NEW FACTORY.

THE PLACE WHERE WE LIVE, AND MINISTER TO THE WANTS OF THE BEE-KEEPING PUBLIC.

IS not the picture a nice one, friends? I thought the one we had in 1878, when we first came down here by the railroad, was just about as nice as any thing could be. But our friends Murray & Heiss, of Cleveland, O., who did the work on the engraving we present you, fairly outdid themselves this time, so it seems to me. I sometimes feel like rubbing my eyes, and wondering if it is really possible that God has blessed my boyish plans and projects so that this building is a reality, and not some transient dream. The old building was 100 feet long by 40 feet wide, and the boiler-house down opposite the lumber piles made it a little longer than the 100 feet. The new wing was made to run out 85 feet, so the front is 125 feet long, all together, and as I sit here by the compositors' table and look away back through the clerks' office, it seems like looking down a lane, almost, or up a street. Suppose you take a look inside with me. Let us go in by that door near where the man stands with a load of bee-hives. Eliza has got stands each side of the door, as you see, on which to place new goods that come into the counter store, or old goods as they become seasonable. Inside we have a room about 40 x 60 feet, entirely occupied by the counter store. The counters inside, instead of being in a circle, as in our old room, are made in oval form, having entrances to go behind the counters on each end and at the middle of each side. In the center of the oval is a stairway that leads to the basement. This stairway is generally occupied by Caddie and her cousin Mabel, where they sit on the steps and cut paper dolls, with Eliza's shears which they have borrowed. This whole south side of the counter store is occupied by shelves. The large vault for valuables is in the corner, at the right. Not only has every article in our price list got a place provided especially for it, but a label is pasted in the bottom of the box, giving the name of the article, and telling where the stock is kept, if it is not directly under it under the counter. For instance, one article reads, "Stock kept in the safe;" another one, "Stock kept on next top shelf opposite."

At the left end of the counter store, where the two counters open, we come to the lunch room. Here you will find oranges and tropical fruits, received from bee-friends in Florida, and also little pies, doughnuts, etc., from the kitchen below. One side of the lunch-room is occupied by a pyramid of the Jones honey-pails, a little like what we saw at the Toronto exhibition, on a small scale. Interspersed are also glass honey-pails; and if you go through into the lunch-room you will see honey in 10-lb. cans, nicely arranged on the shelves. This room is the dining-room. At 12 o'clock every day it is filled with pleasant tables surrounded by boys and girls, chatting and visiting merrily and happily, for milk and honey is one of the staples of the lunch-room.

Near the outside door, where you see the sign just back of that basswood shade-tree, we have cases of comb honey nicely displayed. On top of these cases of comb honey are a lot of little paper boxes made so as to hold just one section. Here is a picture of one.



PASTEBOARD CASKET FOR 1-LB. SECTIONS.

When anybody wants a section of honey, Mrs. Shane just pulls out the flap that you see at one side, raises the lid, as it were, slips in the section, closes it up, and hands it over to the customer. We have quite a nice little trade on honey put up in this shape. You see, the purchaser can take hold of the ribbon and trudge along, envied by beholders, because he has got such a pretty little package. If he chooses, he can have a Jones honey-pail in the other hand. Well, well! we must get along, or we shall never get through the factory.

Let us go back where the little girls sat cutting paper doll-babies on the stairs. "Look out, little chicks, that we don't step on you. Hadn't you better sit so that folks can go up and down? and do you remember, Caddie, what papa said about putting every scrap into the waste-basket when you get through?" Down here is the tin-shop, friends. Honey-pails? To be sure, we have to have a good many for our work. Mr. Gray said, that when we got into this new tin-shop we were going to have things in order. So he made great bins up against the whole north wall, the whole length of the building, and three tiers high. Then we commence with honey-pails, or tin boxes, rather, holding ¼ lb. The next bin contains ½-lb. pails, and so on, until we get up to pails holding 25 lbs. each. We keep such a quantity in these bins, that, if we get an order for 1000 in a single day, we often fill the order right up, and have some left. After we get up to the 10-lb. pails, we have pails with covers, holding 25 lbs., 50 lbs., and the flour-cans; holding 100 lbs. Besides, we have a great variety of different sorts of pails—raised-cover pails, Jones's improved screw-top pails, japanned and lettered pails, then extractor-cans; 300 or 400 are now made up ready for next season's work.

To get in the tin for all this work, we have a little railroad running through the basement, and right out into the little brick entry-way where you see that large arch opening. The tin comes down our side track, on the cars; the boys then run it off on their trucks into the arched doorway, then it goes down on a shute through a trap-door, and is landed on the car that carries it into the tin-shop.

Our friend "Ned" is the tinner. He has been with us a good many years. In fact he used to be one of the little boys who helped in the tin-shop; now he has whole charge of the tin work. You can sit on that car, if you wish, and be pushed out into what we used to call the "dark-room." As you go by, if you look through the window you will get a little view of the kitchen where the pies are made, and dinner is gotten up. After the noon service the dinner is sent up into the lunch-room on a dumb-waiter. To-day we had honey for dinner, sent as a present from W. J. Ellison, Statesburg, S. C.

If we go a little beyond the kitchen, a turn to the right brings us into the wax-room. About 12 hands are at work there now, and we are beginning to use up wax at the rate of a ton every few days, even though it does cost from 35 to 40 cts. per lb.

Beyond the wax-room, Mr. Gray is fixing an arrangement for melting honey by steam. He takes a whole barrel, rolls it on to the platform over a large tin reservoir. The head is then removed, and the honey runs slowly out all around the steam-pipes. When melted, by opening the honey-gate the honey runs quickly into the pails placed on a spring scale which registers the proper amount very quickly.

Beyond the honey-room is the 50-horse-power engine; and still beyond this, the boiler and the boiler-room, where our friend "Park" shovels in the coal, and looks after the steam-pipes which warm the building, warm our house, and drive the engine. Within a few days we have put in an automatic arrangement which takes the sawdust and shavings away from the planers and buzz-saws, and shoots them into the fire under the boiler in a sort of spray, something like the playing of a fountain. The blast of air helps get up the heat; the shavings are blown in so loosely that they burn very quickly, so the engineer is spared a great deal of hard work, and a great amount of fuel is saved by the extra supply of oxygen furnished.

Turning again to the left, we come into the machine-shop. Four men are now at work there making buzz-saw mandrels and comb-mills. Orders for fdn. mills are coming in at an unusual rate, for the scarcity of wax is inducing many bee-men to hold on, or gather up all the wax in their vicinity, and then get a mill to make their own. Machinery for hive-making is also in great demand, and never before were so many buzz saws wanted, and buzz-saw mandrels. We now order saws by the hundred, of a single size, and in a few weeks we have to order again. Our buzz-saws are stored in one of the vaults, each size having its appropriate peg; and as the notions about saws are almost as diverse as those about hives, we have to keep something like 40 or 50 kinds in stock, sizes from 4 to 16 and 18 inches. In the same room where the mandrels are made, we make the honey-gates for extractors, fit up the gearing, make smoker-springs, besides doing the usual repairing of the establishment.

A little further along, our genial friend Mr. Spafford is crating hives. He puts ten in a package, and keeps doing it day after day. We have something like 4000 Simplicity hives now crated, ready for shipment. But I just told Mr. Gray I didn't believe it would be half enough, for we often send out 100 in a day.

Going on beyond Mr. S., we come to the dark-room again, where the railway track and trap-door are, which I have told you about. Going up a flight of stairs we come into the packing-room, where our friend Bert has four or five men all the while packing things in boxes, and nailing them up. When inspected and put up, they are run on trucks out of the arched doorway, right into a car that stands close to the platform.

Adjoining the packing-room is the saw-room, which occupies the whole first story, from the engine-house up to where you see the horse and buggy hitched. From 15 to 20 men are usually employed in this room. Further to the right, where you see the lady with the parasol, is the room containing the large press, and beyond that is the room for storing the paper for printing GLEANINGS and the price list. This is now purchased in lots of two tons at a time, and is run on trucks from the car right into the double doors, in front of the lady before mentioned. A little further along, where you see those three girls, is the entrance to the lunch-room. The sign reads, "Home of the Honey Bees Lunch-Room."

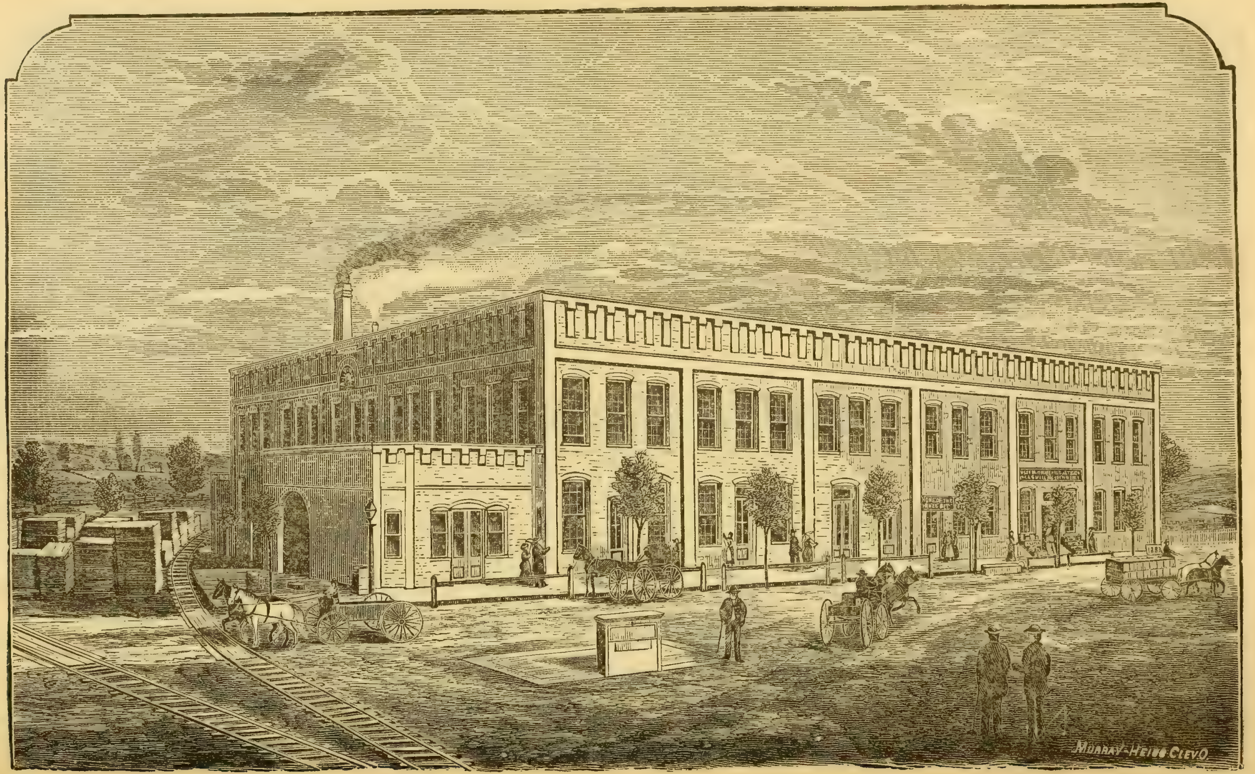
We have now been all through, except the upper story. On the corner where you see the window raised a little, is the printing-office, and this extends out a distance of ten windows to the right. It is before one of these windows, the sixth, counting from the left, that I am sitting, dictating this item to the proof-reader, who is a short-hand writer as well as a printer and compositor. Beyond that is the office, where I hear the girls chattering now. I presume they do not see *me* anywhere around. Just back of the printing-office is the folding-room, where the journals are folded and cut, and the A B C's are made. In this room we have a paper-cutter that is heavy enough to cut your big Webster's Dictionary all up into little slices, if you should ever want to do it. Back toward the engine-room is what we call the sample-room, where frames for bee-hives are stacked up in such quantities that we could probably fill an order for 100,000, and have some left then. Here at each side of a long table, several girls are at work tying up goods ready for shipment by mail, express, and freight. They handle seeds, feeders, transferring implements, tinned wire, metal bars, sections, honey-crates, and every thing of that ilk. At the left of this room, in my old office, where we have a small tin-shop for making the inside of extractors, and fitting them up together. Our friend Merwin has charge of this room now; but when he gets crowded, "Jane" has to help him. It is a little funny, I know, but Jane can make more extractors (or, rather, the insides of extractors) in a day, than any *man* tinner that we have ever found. If there is anybody who thinks women are behind in industrial and mechanical arts, he had better come and make us a visit. It is true, we have some work that men can do, and women can not very well do; but we have a good deal, I tell you, that the women do nicely, and that men could not very well do, if they tried it ever so hard.

Beyond the extractor-room is the room where the smokers are made, and where we keep our seeds. After the tin work is all prepared, and the boards are made, the girls make the smokers for 5 cts. apiece, cutting out the leather, gluing up the bellows, and all that. Some of you who think you can put a smoker together yourselves cheaper than the girls can, had better try it.

Beyond the smoker and sample room is the paint-room and japanning-room. But before going in there, I want to tell you our seed-room won't begin to hold the seeds, and so we have got a sort of seed-house, or granary, outside, set upon stoneware tiles, so the rats and mice can't bother us.

I think now we have been all through the factory. Right before the lunch-room is a stone watering-trough, where the horses and dogs can quench their thirst. It is supplied from the old well I have told you about. When the new building was added, we felt bad to think the well stood in the way; but we finally put the well in the cellar, had a pretty pump attached, with stone pavement around it, and now it is the handiest place in the world for the boys and girls and visitors, or anybody else, to get a drink right from the "old oaken bucket," or, rather, a new chain pump, come to think of it. An ingenious arrangement is attached to the pump in the lunch-room, so the overflow goes into the watering-trough, which keeps it always full, without anybody pumping in.

Only a part of our lumber piles is shown; in fact, only a very small part. The track,


MURRAY-HEISS CLEV.O.

THE HOME OF THE HONEY-BEES IN 1883.

as it disappears behind the building, runs into a large warehouse for storing lumber, seeds, and goods of all kinds. I used to have a pretty garden on one side of this railroad track, but now, alas! it is all covered up with pine and basswood lumber, and the garden will have to go over to the right of the factory, where our new house stands. Don't you think it is a rather pleasant place to live? I am inclined to think a good many think that way, for applications for places from both boys and girls are now beyond any thing heretofore known. It seems to me as if everybody wanted to work here. May be they wouldn't like it so well, though, after all, for some seem to think I am awful strict. May be they will think just as much of me for all that, however. There, if there is any thing I have not told you, write, and I will tell you something more.

In regard to applications for employment. Letters are coming every day, wanting a place with us; and the book-keeper just now tells me that 86 are booked already; therefore it would be of little use to book any more, for we shall not, in all probability, get through with the 86 for the year to come. I am inclined to think there is plenty to do at home, friends, if there is only a mind to do it; and if there is not, you surely wouldn't like it here.

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SHALL WE BUY BEES, OR BUY SUGAR AND "MAKE" BEES?

SOME INTERESTING QUESTIONS TO THOSE BUILDING UP AN APIARY.

CAN I take two-frame nuclei this spring, give them laying queens, and with the aid of partly drawn combs and full sheets of fdn. (no brood from other colonies) as needed, and stimulative feeding, build them up into strong colonies by the time white clover comes in bloom, so as to get a honey crop this year?

How early should I begin?

How warm must the weather be to begin feeding for this purpose?

Would a chaff hive in a house be an advantage over the same outdoors?

Would a frame half the length of a Simplicity frame, with the same depth, be a decided advantage over full-size S. frame? I could eventually transfer two into one.

Would a hive built to contain two or more nuclei be an advantage?

The above questions are asked with the understanding that the closest attention, chaff cushions, chaff hives, chaff division-boards, the A B C, GLEANINGS, and all the common sense I have will be used in order to succeed.

I want more bees this spring, and I think buying sugar is as cheap a way to get them as any, when you have not much money to spend, if my idea is practicable. If I can not get them strong enough by white-clover bloom, I would prefer increasing in the natural way. If I can get them started by the first of April I have sixty days to work in, to the first of June. Will that be enough? I fed for brood-rearing last fall in Sept., Oct., and Nov., and had brood as late as the middle of Nov.—the amount of brood increasing from the first to the middle of the month, after which the weather was too cold to look at them, and to-day they seem none the worse for it. They were outdoors until after we had 22° below zero, then I overhauled them one warm day, and put them in the cellar, fearing to trust the weather further.

Cumminsville, Ohio. E. CLOE.

Friend C., you can build up two-frame nuclei without a bit of trouble, in the way you suggest; and if you were an old hand at the business, and knew just what to do, and how to do it, I should say you might commence the first of April. Of course, a good deal would depend on what the two-frame nuclei were. If like those described in our price list, they ought to be pretty fair colonies at the time white clover blooms.—If they are in chaff hives, with chaff division-boards each side of them, you could begin feeding without any trouble the first of April.—Whenever the day is warm enough so the bees can fly freely, I would take the cover of the chaff hive off and let the sun shine directly on top of the burlap which covers the cluster, letting it dry out and warm up the inside of the hive; then replace the cushions and cover as soon as the night air begins to make it chilly.—If you were an old hand at it, and could afford the expense of carrying the nuclei into the house, or, better, a warm cellar, during cool weather, you could go to work in March.—A frame half the length of the Simplicity would give some advantages when the colony was small; but as it would be a disadvantage just as soon as they got tolerably strong, I do not think it would pay to use it. I would not have any frame in the apiary, except the regular Simplicity, and I would not have more than one nucleus in a hive. There are some advantages, but it complicates matters, and is apt to make confusion.—I have given the above answers, under the impression that you are a new hand at the business, and I would not advise you to try very many to commence with—say five or ten. The principal difficulty will be to get good strong nuclei by the first of April, without paying pretty nearly the price of a full colony. Perhaps you might get them from some of the friends in the South. You probably would have to get your queens from the South, any way. I do think your plan a very much better one than to buy bees, and sugar is so cheap now that an expert ought it be able to make a splendid thing of it by raising bees to sell, and feeding sugar before they begin to get natural stores. There is danger of dysentery in feeding during such cool weather as we are likely to have in March and April. Since we have been having such trouble with foul brood, I am more and more convinced, that with the low price of sugar, bees can be raised ever so much cheaper than they can be purchased. We do a large business in selling bees, as you know; but almost every time they go off, I feel as if the purchaser, if he has any time at all on his hands, could raise them very much easier than he could afford to pay for them. Sixty days ought to be ample time for an expert to build a two-frame nucleus up in to a strong colony. I should be very glad to get a report from you, friend C., to know how you succeed.

SELLING EXTRACTED HONEY.

FULL INSTRUCTIONS IN REGARD TO A PLAN THAT WILL DO IT EVERY TIME.

THE following we copy from the *Country Gentleman*, by permission of the writer, our old friend W. Z. H. It was written in answer to a letter sent friend H., asking how to get rid of 3000 lbs. of honey that did not seem to sell of itself:

My experience, which has been mostly with extracted honey, teaches me that a really superior article of honey for table use can not be obtained unless it is left in the hive until sealed over and thoroughly ripened, and in this view I am supported by such men as the Rev. L. L. Langstroth, James Heddon, Chas. Dadant, and many others.

Knowing the above facts, no man possessing common sense would expect to enter a grocery where extracted honey had never been handled, and effect a sale at market price. I tried it many times when first starting in the business, and almost invariably was told that the grocer did not believe he could handle honey in that shape. If I had some in the comb he would buy it. I have steadily and gradually developed my home market, until it takes all the extracted honey that I raise; but, if I had a few thousand pounds more than I could sell near home, I think that I should not ship it to commission men to sell at 7 to 10 cents per pound, less freight and commission.

This may be the best, and in fact the only course for many bee-keepers, for the reason that selling is not their forte. To raise a good crop is one thing, to sell it at the best advantage is another; hence, bee-keepers who are poor salesmen should either raise comb honey, or be content to allow other men to sell their honey. My own peddling skill was developed by several years of "canvassing" for different articles, and if I had a large crop of honey to sell, I should send myself out in the capacity of a "drummer." I should put the honey up in tin pails varying in capacity from 1¼ pounds to 5 pounds; allow it to crystallize; adorn the pails with neat labels, and also labels explaining in regard to the crystallization, how to restore it to a liquid state, etc. I should make boxes large enough to hold even dozens of each size. I should also make enough neat little stands, upon which to expose the honey for sale, so that I could furnish each dealer with one. Honey must be placed in a position where people will see it, otherwise many do not think of buying. I should make these stands of the "knock down" order, so that they can be taken to pieces and packed in the first box of honey shipped to a dealer. After getting the honey all in readiness for shipment, I should take a large valise, put into it one of the honey-stands, enough of the honey-pails to appropriately fill the stand, but they should all be empty, except one small one, on account of the weight in carrying them, and that should be filled with crystallized honey, just as I expected to sell it. All the pails, however, should be supplied with labels. I should also carry with me a bottle of the same kind of honey in a liquid state. I should select a route of such character that I could swing around a circle back to my home.

Upon entering a place of business, I should inform the proprietor that I was a bee-keeper in search of customers for my honey. If he did not know what I meant by extracted honey, I should explain, illustrating my remarks by taking from my valise a work upon bee culture, and showing him the engravings of movable-comb hives, honey-extractors, etc. After he fully understood what it was, I should show my liquid samples, allowing him to taste it, then explain in regard to the crystallization of honey, sustaining the truth of my assertions, if necessary, by reference to the "bee book," following this up by exhibiting the pail of crystallized honey. If he became interested, and would allow me to do so, I should now put together the honey-stand, place it upon the counter, and, arranging the shining tin pails, with their bright labels, upon the stand, call his attention to the attractive appearance of the pails thus arranged upon a stand upon his counter. After the talking and explaining is all over — and an immense amount is required — it is barely possible that a sale can be effected, but ten to one the reply will be: "I don't know whether I can sell it or not; I guess I will not buy any to-day." The only thing that can now be done is to ask permission to send a box of honey to be sold on commission. This will seldom be refused, and the dealer should be informed in regard to the objections that customers will urge against the honey. In fact, he should be as fully "posted" as it is possible to make him in a single conversation. The dealer must be educated, and, through him, the people. An extra pail of honey should be placed in each box, and the dealer instructed to take it home and liquefy it, use part of it (so that he will know that it is good, and recommend it), and bring the remainder back to his place of business and keep it in a glass vessel, such as a jelly-tumbler. Thus customers can be shown how the honey appears and tastes after it is liquefied. This is quite important. To build up a trade in this manner for extracted honey, requires an immense amount of talk, patience, and perseverance, but I *know* that it can be done.

In three or four weeks after shipping the honey, the dealers should be again visited, when it will be found that there are many points upon which some of them wish to be enlightened. One customer has said one thing, another a different thing, and so on. A few have sold very little honey, others half of it, a few perhaps all that was sent. After making two or three trips it may be possible to conduct the business by correspondence. Every bee-keeper who wishes to raise extracted honey should send to Chas. Dadant, Hamilton, Ill., for his pamphlet on harvesting, handling, and marketing extracted honey. It costs little, but is worth $10. Mr. Dadant has handled 45,000 pounds of extracted honey in three years, and tells how he did it.

Genesee County, Mich. W. Z. HUTCHINSON.

Very likely some of the friends will object to the above, by saying that it is too much trouble. Well, if you can not take the trouble you will have to sell at a low price, or let it stand unsold. I know by experience that friend H. is exactly right about it, and that such a course will ultimately build up a home market that will sell immense quantities of good extracted honey.

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SOMETHING MORE FAVORABLE FROM THE ZINC HONEY-BOARDS.

DO THEY RESTRAIN QUEENS, OR DO THEY NOT?

I HOPE no one will give up the idea of using perforated zinc, on account of the unfavorable reports that have appeared in the two last numbers of GLEANINGS. From my own experience, I know that it can be used with perfect success. I work almost entirely for extracted honey. My hives are the common two-story Langstroth, with a slat honey-board between the upper and lower stories. The honey-boards are made of four slats, with a cleat on each side, leaving a space about 2 inches wide between each of the slats.

When the honey season opened last spring I put perforated zinc honey-boards, instead of my slat honey-boards, on four of my strongest hives of Italians. I filled the upper stories with empty combs, and a few frames of brood from below. The bees worked through the zinc with perfect freedom. But here comes the trouble. The hives were made for ½-inch honey-boards, so there was a space half an inch wide between the bottoms of the frames in the upper story and the zinc honey-board. Before long, the upper frames were fastened down so solid that it was almost impossible to get them out. Then, again, when I wanted to look into the lower story, the zinc honey-board was fastened down so tight that I had to bend it all out of shape to get it off. Before long the queens began to appear in the upper stories. The cause was not far to seek. The zinc honey-boards were just the right width; but they were just the same length as the inside of the *brood-chamber.*

The queen, after filling all the space below, crawled in on to the rabbet, between the ends of the frames, and so got around the end of the zinc honey-board. As I said before, the honey-boards to my hives have four slats. The two end ones are 6 inches wide, and the two middle ones are 4 inches wide. That leaves three spaces about 2 inches wide for the bees to work through. Instead of putting four slats into the honey-boards, I left out one of the middle ones. That gave me a honey-board with two spaces each 5 inches wide, instead of three spaces each 2 inches wide. Then I took my zinc honey-boards and cut them into strips 6 inches wide, and tacked them over the spaces in the honey-board. Then I had a honey-board that fitted the space between the upper and lower stories, so that the bees never fastened the upper frames down. The honey-boards did not bend out of shape, as did those made entirely of zinc. And above all, they fitted down on to the edges of the lower story, so that it was impossible for a bee to get into the upper story without going through the perforated zinc.

What was the result? Not a queen got into the upper story, where these honey-boards were used. But the bees worked just as well as if there had been no honey-board there.

On page 12, GLEANINGS for Jan. 1, Mr. Hutchinson objects to perforated zinc, on account of its cost. The perforated zinc costs me about 16 cts. per square foot, counting express charges from Medina. I use just a square foot for each honey-board. The honey-boards cost almost nothing, as I buy them in the flat with my hives.

In conclusion, I would say that perforated zinc honey-boards, as you sell them, are almost useless. But perforated zinc, if used in the right way, is a perfect success. XEN. CAVERNO.

Lombard, Du Page Co., Ills.

Friend C., it seems to me your whole trouble was caused by that large space between your upper and lower frames. In all the hives we make, this space does not exceed ⅜ inch; and in place of a honey-board, we use a mat. This, of course, just allows room for the perforated zinc, and yet no place for them to build in combs. In fact, one thing for which they were particularly designed was to prevent the bees building the upper and lower frames together. Very likely a honey-board of wood would be better where the space is so great as you have it.

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PEA-VINE CLOVER.

ITS CULTIVATION, ETC.

IN response to many inquiries, Neighbor H. gives the following further facts in regard to the cultivation of pea-vine clover:

Sow in the spring on a wheat, oat, or barley crop, or any place you would sow any kind of grass. Be careful not to sow too early; wait till after the hard frosts are over, as the young plants are tender. A hard freeze will kill them, but they will stand a light frost that would kill corn or potatoes. It makes an excellent quality of hay, as it matures the same time as timothy. You do not have to cut timothy before it has matured, to save your clover, when they are sown together for mixed hay. For pasture, it can't be beat, as it does not hurt it to feed it down, as it grows very rapidly, and will keep green all summer. It is the cheapest feed for hogs that can be raised, as they will fatten on it without any other feed, so that butchers like to buy them for the early market. But be careful not to turn on too early in the spring, while the ground is soft, as it injures the crop, especially if you turn on heavy stock like horses.

It is a good plan, when you have a good start in the spring, to pasture it through May, as the hay will grow finer, and the seed mature better, and you will always have bulk enough; or if you do not wish to pasture it, you can run the mowing-machine over it the latter part of May. There will not be any thing worth raking up.

The seed must be saved from the first crop (it is not like the June clover); the seed will be ready to cut the fore part of August. I cut it with a side-rake reaper, let it dry in the gavils; don't rake it with a horse-rake, as it shells very easily. I like to thrash it as you draw it out of the field, when it is dry, as it gathers moisture, and gets tough, and the seed does not hull so easily after it has been stacked.

Thrash with a common clover-huller. Besides being a first-class forage plant, you get a good crop of honey right through the hottest, dryest part of the season, after alsike, white clover, and basswood are gone, and bees have very little to work on, so it will pay any bee-keeper to try it. H. B. H.

Medina, Ohio, Feb. 5, 1884.

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EXTRACTED OR COMB HONEY.

WHICH KIND SHALL WE WORK FOR?

ON page 99, current volume, this question is asked by Mr. T. Wm. Fleming. The editor of GLEANINGS asks for a "free pitch-in" to an answer. If ever I have to take 8 cents per lb. for good extracted honey, consumers will never find any. Comb honey at 15 cents will pay better than extracted at 8. There can be no trouble to make a sale of the comb honey at this price; but extracted goes off slow with most bee-keepers at 8 and 10 cts., and there is some uncertainty about its ever being so extensively called for as to warrant bee-keepers turning much attention to its production.

This trouble generally grows out of the great distrust on the part of the public as to its real character. It does seem as though the general public would never come to know or believe that candied, or granulated honey, becomes so because it *is* pure honey. Even if it should be regarded as pure by all, it is unattractive and uninviting, even at the low price at which it is offered. Were I compelled to ship my honey long distances to find a market, I would perhaps prefer to produce extracted honey at one-third less price than comb, for the reason that it is shipped with so much less risk of loss. Indeed, I am not sure I should ever locate in a country where I could not have a home market for most of my honey at paying prices. What matter if a man should with great labor, perseverance, and skill, produce a large crop of honey, and for want of a good market, or cost of putting his product into a market, find in the end that all this energy and hard work had left him but a meager salary? Fortunately in these days of cheap and rapid transportation there are not many places where honey can be produced and not find a good market.

It seems to me I should have to be getting an immense quantity of extracted honey, if I could not get more money out of it than 8 or 10 cents per lb. Here we have what might be called a poor honey country, and can not average more than 60 lbs. per colony, of comb honey, fair seasons. Last spring I got from 55 colonies, spring count, no increase, 4100 lbs., one-half comb in 1-lb. sections, and sold comb honey at 20 cts., and extracted at 16 to 22 cts. This would average 20 cents; but it is not every bee-keeper who will work his crop off at these prices. Not only my own honey have I sold, but several thousand pounds purchased from other producers.

Friend Fleming speaks of having 98 colonies to begin with, and of their swarming so much, which indicates that the season with him was good; but for his locality, having such an abundance of blue thistle, clover, etc., his crop of surplus should have been, with proper management, much greater. Perhaps that 600-acre farm stood in the way of the bees. Last fall, in company with Mr. K. M. Reynolds, of East Springfield, Ohio, I visited some of that blue-thistle region, taking in the Shenandoah Valley, Va. While there we discovered a peculiarity of the bees of the valley. In the town of Winchester there are one thousand colonies of bees, and hundreds more kept within a radius of two miles of that town; and although they all gather enough to keep them, and give perhaps an average of 40 lbs. per colony, surplus, the bee-keepers there tell me they seldom swarm. Now, while this seems to be the case down in the valley, on the mountains on both sides of the valley the bees swarm with a vengeance. We visited the town of Front Royal, at the base of the Blue Ridge, and saw some very fine honey that had been gathered there perhaps from the neighborhood of friend Fleming. The honey from blue thistle is of very fine flavor, and the Shenandoah Valley and vicinity abounds with this best of all honey-plants.

J. A. Buchanan.

Holliday's Cove, W. Va., Feb. 4, 1884.

Friend B., a few days ago we had company, and my wife picked out a nice section of comb honey. This honey was found over a swarm of bees I purchased in the middle of the winter. The owner was too lazy to take off the honey, I suppose, and so he sold me the colony, bees, honey, and all. The honey was basswood. My wife says she does not like basswood, but she liked this. So did I. The bread was nice, the butter was rich and yellow, and a pitcher of milk and a goblet stood near my plate. After I had taken several chunks of the comb honey, I dipped up the liquid honey with my spoon. Now, if the extracted comb honey that stood in the honey-cup right near was as good as that I dipped up with my spoon, it would not have been on the table week after week untouched, comparatively. Is not the extracted honey at 8 cts. generally a little inferior to that from sections that have been allowed to ripen over the hive? One would infer from the above, that you are a comb-honey man. I agree with you, that it does seem as if there were something wrong, when nice extracted honey brings only 8 cts., and comb honey 15 cts. It seems to me there must be some misapprehension or misunderstanding, when such a state of affairs comes about.

MRS. LUCINDA HARRISON OFFERS A FEW SUGGESTIONS AS TO WHO SHOULD KEEP BEES.

MILK AND HONEY AND SUNSHINE.

BROTHER ROOT:—Womanlike, I want to put in a word as to "who shall keep bees." Any one who wants to, and who can prevent them? I thought when I read friend Hutchinson's paper (the blue one) that he had dyspepsia. He has been writing a good deal, and the weather has been very cold, so that he could not exercise freely in the open air. I want to prescribe for him: A bath once a week, and a diet of graham gems, honey, and fruit, and he'll come around all right. We shall soon hear him whistling, as he trundles the twins around his apiary.

Brother Clarke had a similar attack, but the veterans all know what caused it — he got stung on the lip.

I write some for farmers, and I tell them all to keep at least a few colonies of bees, to provide their families with a pure sweet, wax for their wives to wax their thread to sew on their buttons, and last, if not least, to fertilize the bloom of their orchards and meadows. But I never in my life told a doctor that he could make more money keeping bees than practicing his profession. Once upon a time I called in the services of an "M. D.," and I found out how they can coin money (not honey).

If only specialists kept bees (it might be better for that class alone), who then could afford honey? The bee-master of the London *Times*, Dr. John Cumming, did a good thing in inducing cottagers to cultivate bees in England and throughout the British empire. Let us imitate his noble example, although we may lose money thereby. Is it not a grand work to show people how they can provide themselves with a pure sweet, which is wasting at their own doors, "which is to be had, not for the asking, but for the taking"? And we will also be adding to the wealth of our native land, of which we all feel proud.

The supply dealers, who are furnishing good implements for the apiary, have my hearty thanks. I should like to see good movable-frame hives, and other fixtures of the apiary, hawked around the country by wagon loads, stopping at every farmer's door. I know I don't like to see supply dealers at bee-keepers' conventions getting a resolution passed to give a vote of thanks to Mr. So-and-So for his smoker or drone-trap; but let them bring their wares, the more the better, and give plenty of recesses, so they can button-hole everybody there, and fill their pockets with circulars.

As old men, women, and invalids, are not considered proper persons to keep bees, I should like, if there are any such, that they would "speak out" in meeting, and relate their experience, for the benefit of doubting Thomases. Mrs. L. Harrison.

Peoria, Ill.

Well, I declare, my good friend Mrs. H., I have thought several times before, that you had the peculiar gift of hitting things right squarely, and doing more in a few words than some of the veterans do in whole columns and pages. And it seems to me this is a good stopping-place; for if we do not stop, Gleanings, both old and young, will be occupied, during the year 1884, with essays on "Who shall Keep Bees?"

The "Growlery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

THIS time it is not an individual, but it is a convention of individuals, it would seem, and we find it in the Syracuse *Standard* of Jan. 24. At the head of the article we read, "Action taken by the North-Eastern Bee-Keepers' Association. We extract as below:

> Mr. Benedict said that A. I. Root, publisher of GLEANINGS IN BEE CULTURE, has proclaimed that his journal has 150,000 readers. The speaker said that Mr. Root will give some *article* he has to sell an *editorial puff. Five thousand readers* will think that the article is a good thing, and will send Mr. Root a dollar apiece. *Mr. Root* will be in $5000, and 5000 *hard-working men* will be out *a dollar apiece*. In the speaker's opinion, *Mr. Root and his magazine are hurtful to bee-keepers.*
>
> A member said he did not believe that the magazine has more than 6000 subscribers. Several members expressed opinions uncomplimentary to Mr. Root and his *Gleanings.*

Now, friends, it seems to me that is naughty. We have never had 150,000 subscribers, "nohow," and I am sure I never thought or said we had 150.000 readers; and, by the way, my good friend Benedict, is not your logic, on the face of it, spiteful just a little bit? If those articles which I so wickedly offer for sale did not cost me "ary red," and every one of our 5000 readers (by the way, how did the readers shrink down to 5000 so quickly?) bought them at a dollar apiece, it might be true. It seems to me the remarks are the more unkind and thoughtless, because I have, almost since the commencement of GLEANINGS, given the *exact* number of subscribers in every monthly issue. If the friend who made the above remarks is a subscriber to GLEANINGS, he would have seen that our number in the January number was given at 4275. I believe that our purchasers are usually satisfied that the goods they buy of me are sold at a very small profit, instead of *costing nothing and selling at a dollar*. And another thing, I believe GLEANINGS has always been ready to advertise any good thing that comes up, no matter who made it or where. It is true, I have very often added, after a description, that if the friends wished, I would get the articles for them at such and such a price, and perhaps I have really illustrated too many wares in this way that I have had for sale, or perhaps I have undertaken to sell too many things. In extenuation, let me illustrate it by the following letter that was in my hand when I picked up the Syracuse paper. It is in regard to Sturworld's case for exhibiting and selling honey, illustrated on page 11. When I illustrated this case I spoke of its good points, and did not say a word about making them or having them for sale, as some of the friends complain I have so often done. I was not surprised, then, when queries began to come in like the following:

> What is just such a show case for honey as Sturwold's worth, as illustrated on page 11 of the January number? Do you intend to make them?
>
> JOHN W. NIMAN.
>
> Spring Mill, Richland Co., O., Jan., 1884.

Now, our friend is not unreasonable. He knows that I could have the cases made by the dozen or hundred, for perhaps half what it would cost bee-keepers to have them gotten up singly, and therefore he with others would like to have me do it. Were it possible for me to compass so many things, no doubt I should be doing them a favor and a kindness by getting competent manufacturers to give us a price on them by the quantity. I admit, that my project of making manufacturers name a low figure for any thing that bee-keepers might want has been a successful one, and I thank God for having placed it in my power to help my friends and customers in just that way. Nevertheless, there may be some truth in the charge brought against me, and I will think it over carefully; for when people speak ill of us they often utter truths that our friends would hesitate to speak.

A GOOD LETTER FROM AN A B C SCHOLAR OF ONLY ONE YEAR'S GROWTH.

ALSO A GOOD SUGGESTION IN REGARD TO THE STURWOLD HONEY SHOW-CASE.

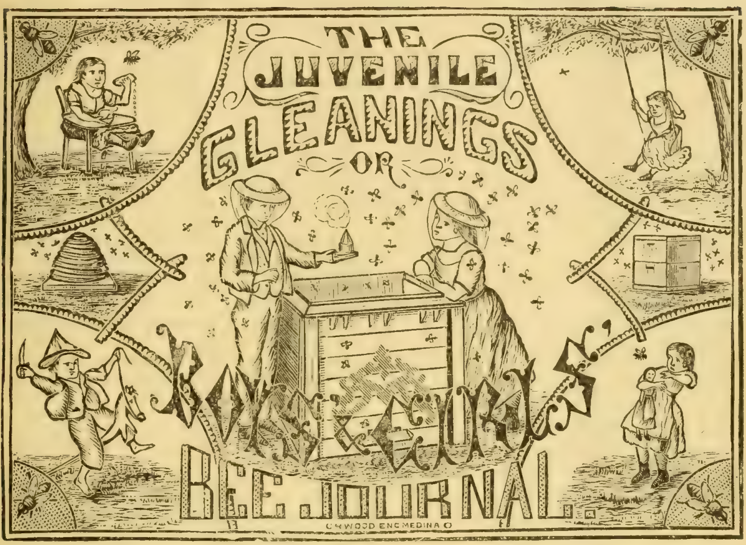
I AM a new subscriber to your journal. I commenced with the first number of this year. I am well pleased with your paper; besides, I think that I am already doubly paid my subscription price by the suggestions of friend Sturwold, of Haymond, Ind., in regard to making honey sell. I see from his article that he gives his plan to the bee-keepers of your particular family. I have adopted it, with a small improvement (I think); viz., below the show-case proper I have made a cabinet large enough to hold a 21-lb. case of comb honey, in a drawer that opens on the back side of case under the door, so that the grocer can keep his honey for retailing, free from flies, dirt, etc. You can give the above improvement, if it is one, to your readers.

I notice in your paper the success of different bee-keepers, so I will give you mine. Last spring I transferred, from old log and box hives, 8 colonies, while the apples were in bloom. We had a very wet, backward spring after that, and I fed back 75 or 100 lbs. honey. My apiary increased by natural swarms to 19 colonies. As soon as white clover was in bloom I placed caps with section boxes with foundation in them. I have had very good success. I have sold $100 worth of honey at 15c. per lb.; have had all the honey that we wanted to use on the table, and have 100 lbs. on hand yet, besides 250 partly filled sections. My outlay is, for section boxes and foundation, $11.25. I made enough hives for my neighbors, so that I am out (besides my work) only 5 cts. for my hives. I had 12 swarms; doubled two of them when they came out; have lost one this winter; have two Italianized. All are in good condition Jan. 10. I made from one hive of black bees, 221 lbs. comb honey, in 1-lb. sections, but no swarms.

This is my first year with bees in the movable-frame hives. I will try feeding back honey (to finish up sections) on a small scale. I feel my way as I go, and try not to jump at conclusions.

Belle Prairie, Ill., Jan. 28. ADAM CROUCH.

Your idea is an excellent one, friend C., and it begins to look now as if bee-keepers would have to prepare something of that kind to put in some suitable grocery or store near them. If they keep supplies, and have a sort of shop near the road, of their own, perhaps they might have such a case fixed up in the front part of this shop.



He that is faithful in that which is least, is faithful also in much.—LUKE 16.10.

MYSELF AND MY NEIGHBORS.

Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal it shall be measured to you again.—LUKE 6:38.

MY LITTLE FRIENDS, I want to tell you a story I heard the other day, about neighbors. A good many years ago, when they did not have railroads as they do now, there used to be what we called "taverns" scattered through the country. They call them hotels now, but the country taverns then were rather different from a hotel. As the landlord had many times but a small amount of custom, he used to be a sort of farmer, and a good many times the country tavern was nothing but a great big farmhouse by the side of the road, without a town by it at all. Well, once there was an old Yankee farmer who kept a tavern by the roadside. I suppose you have heard that Yankees are a very inquisitive people. They always want to know what their neighbors are doing; and if a stranger comes along they are always curious to know who he is, where he is going, where he came from, what kind of business he follows, and all that. Well, this Yankee tavern-keeper was no exception to the general rule, and so he used to ask everybody who stopped with him over night such questions as I have mentioned above.

One evening a wagon full of people moving came along to stop with him over night. After they got the horses unhitched, "mine host" began as usual:

"Well, neighbor, may I ask where you came from, and where you are going?"

"Why, I came from the town of ——, in the State of Pennsylvania. I am going out west somewhere to find a new home."

After a little time our friend returns to the charge.

"Now, friend, if you will excuse the liberty I take, I should like awful well to know why you are moving away from the town of ——; that is, if you don't mind about telling me about it."

"Don't mind telling at all; for the real truth of it is, we had such a pesky mean set of neighbors there in —— that it was impossible for a decent man to get along with them and live. I am going to try to find a place where one can live and get along without being pestered to death by such mean, low-lived people."

Now, this tavern-keeper, besides being a Yankee, was also something of a philosopher; and after eyeing the traveler for a minute he advised him as follows:

"My friend, you won't find any better neighbors out west than you had where you came from. The world is all pretty much alike, and you had better make up your mind to put up with just about such people as you have left."

Now, by some queer sort of coincidence there happened another family along in a few days more, and of course our friend put them through the same line of questions; and.

strange to say, this man also came from the town of ——, in the good old State of Pennsylvania. When the landlord got to the question, "And why did you move away from ——, my friend?" he got the following reply:

"Why, my dear sir, I would not have moved away from —— for any thing in the world, had it not been for some especial reasons which I need not now enumerate; for we had just the nicest lot of neighbors there that any one ever had anywhere. I have no hope that I shall ever meet such a good kind lot of whole-souled Christian men and women as we had there, and it is with feelings of sorrow and sadness that we broke the ties that have existed so many years, and start for a new place among almost entire strangers."

Now the face of our Yankee philosopher beamed with kindness and good will, and he broke forth:

"Look here, neighbor, you need not be troubled, or feel sad, for you will find just such neighbors in your new home as those you left behind. The world is full of them, for it is pretty much all alike. Our neighbors are as we make them."

Now, then, my little chicks, what sort of neighbors have you got across the way, and to the right and to the left of you—up street and down? Are they mean and selfish and quarrelsome and disagreeable, or are they like that good man I told you about last?

Give, and it shall be given unto you.

DILIGENCE IN BUSINESS.

ARRIVING at the years of understanding, every person finds himself in a position where he must soon decide what course he will pursue through life. The question of preference, whether he would be in this world or not, was not left for him to decide. He finds himself in the world regardless of his own wishes, and now come up the questions: How shall I pass away this life I find placed before me? how shall I live to find the most happiness for myself? how shall I live to be of the most use in the world? can I find the most happiness possible for me to enjoy, unless I live for the benefit of those about me? These are questions which come to every one, sooner or later, and in the deciding of them we make our future destiny, and have an influence either for good or bad. In deciding this matter, many seem to feel that, in gathering riches and honors to themselves, will come the greatest happiness. I think this a mistaken idea so far as it turns toward self and selfishness; but in getting riches to do good with them, and in doing that good, comes a blessing greater than which there is no other, except that which comes from having the love of God filling the heart. So, then, we have first, "Seek first the kingdom of God and his righteousness;" and second, a life of industry in doing what we can to make the world better for our having lived in it. As I do not propose to make this a religious epistle, I will not dwell on the first, except to say to those who know nothing of the love of God in the heart, that there is a happiness in knowing that you are one of God's children, far greater than any other happiness of this world. If you do not believe it, and can not see it in this light, it is simply because the things of the "spirit are spiritually discerned;" hence if your heart is not filled with this spiritual love, you can not expect to enjoy it.

In our second we have a busy life, as giving us the greater happiness of any except the first, supposing that, if we gain more than is necessary to carry us through life, we are to use it for the good of those about us. As a busy life means "diligence in business," I have so headed this article. Many years ago it was thought to produce much happiness to be near and be commended by the king of the land. We think it an honor to see and shake hands with the president of our own United States. Those who attended the North American Bee Convention at Toronto, thought it an honor to shake hands with Father Langstroth (I wish I could have been there, and had that pleasure), and so we find it always considered as giving happiness to stand before and shake hands with great men. Now, we have a promise in the Bible to the "diligent in business" which reads, "Seest thou a man diligent in his business? he shall stand before kings; he shall not stand before mean men" (Prov. 22:29), and thus we find the men whom the world delight to honor to be those who have, through diligence in their calling, become proficient in the same. It is a rare thing that I refer directly to my own life in any of my writings for publication; but to best illustrate what I wish to, I will give the juveniles a brief sketch of my life thus far.

I was born of parents in very moderate circumstances, who gave me an education such as was afforded by the district school. Till I was nearly 15 years of age my life was an aimless one. I went to school simply because my parents sent me, as perhaps some of you are doing who read this. At 15 years of age I believed I had "passed from death unto life," was baptized, and joined the church. At this time I began to wish for an education, but my parents now decided that I ought to help at home during the summer, while I was allowed to attend school for the next three winters. During those three winters my motto was, "Strive to excel," and to that I owe all the education I now enjoy, which is only that which is termed the common branches. I was brought up a farmer, father thinking that such was the avocation I should choose in life; and as I had not yet obtained a liking for the bees, I decided that father was right. After so deciding, I adopted the same motto as I did at school, and tried to put it in practice in all I did. After making some failures, falling short of excelling, I asked myself what was the trouble. I soon decided that I was expecting to reach the top of the ladder by trying to begin to climb at the middle, instead of the bottom. In other words, I was trying to accomplish a piece of work rapidly, without first knowing how to do it well, and the result proved a failure. I now decided, if I would excel I must first be willing to go slow and learn to do a thing well; and after so doing, learn to do it rapidly, without neglecting any part of it. Soon after thus deciding, I remember trying to shear the first sheep. For three hours I labored patiently to accomplish the job. When about half done, one of the men who was shearing at the same time tried to persuade me to give it up, and let him finish shearing the sheep; but I desired to accomplish what I had begun, so declined to be persuaded. I well remember the satisfaction I had in seeing that sheep go out of the barn, looking nearly as smooth as those sheared by those who were experts at it, As time passed I soon was able to shear 20 sheep in a day, and do it as well as any one. This was considered a good day's work; but I was not satisfied till I could shear 40 in a day. I now went out shearing, and thus was able to get double the pay for three or four weeks during the sheep-shearing season, that I could get at ordinary farm labor.

I give this to show how *diligence* should be applied to our business; and also to show that, when so applied, it will always command a good price. When this price is received, we are happy in thinking we are efficient laborers in helping those about us. I might go on and tell how I mastered other difficulties till I became an efficient farmer; but this one will suffice. My next (in March JUVENILE) will be "How I Became a Bee-keeper."

Borodino, N. Y. G. M. DOOLITTLE.

Friend D., you have struck upon just what I am sure all the juveniles at least will be glad to hear — what you did when you were a boy, and how you laid the foundation for your success in business of all kinds, as well as bees. I could have told all the little friends already, that one of your peculiarities was doing every thing well, and that if you could not have a good nice thing, and one that just suited you, you wouldn't have any at all. I wonder how many of our readers are able to shear forty sheep in a day.

SOME COMPOSITIONS ON BEES.

IT seems that the little friends in Allerton, Iowa, got it into their heads that they would write a piece giving some fact in the natural history of bees, or telling what they know about them. Accordingly, half a dozen or more have been sent in. We will give them all under this general head.

ANDREW'S COMPOSITION.

Bees are very strong; they can fly a great distance without alighting. The drone has no sting, but it makes a buzzing sound when flying. Bees will not work in the light. ANDREW E. HOLZER, age 11.

Allerton, Iowa, Jan. 15, 1884.

MATIE'S COMPOSITION.

Drones have no sting. They may be easily held without stinging. MATIE SMITH.

Allerton, Iowa.

HATTIE'S COMPOSITION.

Bees have a pouch in the back of their body, in which wax grows little by little. When it is full it sticks out in little scales, and either the bee himself or some of his fellow-workers take it off and use it in making honey-combs. At first the comb is white and soft; after a while it grows firm and yellow. Bees' eyes are made to see a great distance.

HATTIE CRUM.

Allerton, Iowa, January 3, 1884.

SAM'S COMPOSITION.

My father has 15 stands of bees; 13 stands swarmed this summer, and 2 stands died. We are going to sell them. This is my first letter. I will write you a better one next time. SAM GASTON, age 11.

Allerton, Iowa, Jan. 16, 1884.

WHEN THE BEES CAME.

Bees were not in this country till the white man settled here. The Indians call the bee the white man's fly. EUGENE HOLZER.

Allerton, Wayne Co., Ia., Jan. 14, 1884.

CLAUD'S COMPOSITION.

There were no bees in America until they were brought here by Europeans; but they are now found all over North and South America, although they did not reach South America till 1845, and California in 1850. The bees called the drones have no stings; but the females and the workers each have one at the back part of the body. The sting of a bee is where the poison is made. When a bee stings it first makes a wound with the sheath, along which the poison flows in a groove; and it then thrusts in darts to deepen the wound. Bee-poison is so deadly that a single sting will kill an insect. Animals and men have been sometimes killed by bees which attacked them in great numbers. The honey-bee is an insect of the order *hymenoptera*, or membrane-winged insects. The word bee comes from the Anglo-Saxon *beo*.

HOW CLAUD'S FOLKS GOT A START IN BEE-KEEPING; CLAUD'S HOME, ETC.

I live in Allerton, and go to school. Our school is in a brick building three stories high. I have gone to school four years. When school is out I go up to my uncle's and spend summer. One Sunday there was a swarm of bees settled on a cherry-tree, and we took a keg and hived them, and now we have three stands of bees. We did not get much honey the first year; but the second year we got 170 lbs. We have made more hives for next year.

CLAUD PHILLIPS.

Allerton, Iowa, Jan. 15, 1884.

MAY'S COMPOSITION.

The food of bees is of two kinds—the pollen of flowers, and sweet juices. The pollen is gathered on the hairs of the legs, and carried to the young. When the bee stings it first makes a wound with the sheath, along which the poison flows in a groove, and it then thrusts in the dart to deepen the wound. The saw-teeth edges are very hard to pull out, and bees are often hurt so badly they die.

MAY ALEXANDER.

Allerton, Iowa, Jan. 3, 1884.

Now, May, it seems to me that you and Claud have copied your ideas from the same book, for they read just alike. Would it not be better to get a fact fixed in your mind, and then express it in your own words? Always be original.

AN OLD BEE-BOOK.

FRIEND BURRELL, of New York State, sends us a copy of Daniel Wildman's book on bees, dated 1780. We quote from page 41. We copy verbatim:

The Drone is a large Bee without a Sting. Some are of Opinion that it is a working Bee that has lost its Sting; but this is erroneous, for no Person ever saw that a working Bee became a Drone.

Many Reasons are alledged to prove the Drone to be the Male.—1st. Because, notwithstanding they are great Wasters of Honey, yet the Bees suffer them to remain quiet till they leave off breeding, and have Conceived for the next Year.

It is evident, from the above and other passages, that friend W. supposed the worker bees brought forth young, and that queens perpetuated themselves only.

THE DISCOVERY OF SILK.

COMPILED AND WRITTEN BY MISS NELLIE LINCOLN ROSSITER.

Continued.

IN the meantime, the demand for silks had prodigiously increased, along with the wealth and luxury of the Grecian court, of the inhabitants of the capital, and other principal cities; and the Persians enriched themselves by carrying on that trade. This awakened the jealousy of the Emperor Justinian in regard to that branch of industry and commerce, and he determined to secure the same advantages to his own empire. His first step to this purpose was to send an express embassy to the kings of Ethiopia and Abyssinia, to invite them to appropriate to themselves the silk-trade, considering that they could obtain the silk direct from India, and had it in their power to send it to Alexandria through the Nile. The ambassadors explained the great advantages that would accrue from it; observing, by way of argument, that Christian sovereigns ought not to permit the heathen enemies of the emperor to enrich themselves at the expense of his subjects. These suggestions had, however, not the least success, and the autocratic sovereign of the great Roman Empire in the East failed to procure for his subjects, the silk-trade. A mere chance produced what no exertion had been able to effect, and it gave a new face to every thing connected with that industry, and occasioned the production, fabrication, and trade of silk in Europe. Two monks presented themselves at the court of Constantinople, and offered to reveal the secrets of the rearing of silkworms, which they had learned during their missionary expedition in China. The emperor, in his joyful surprise, made them rich presents; but it seems that the friars possessed only some seed of the mulberry-tree, and considered themselves thereby completely provided, because they thought that, when the trees should grow, "the worm could not fail to accompany them," as in China. But this was a hasty conclusion; and the monks being encouraged by the many splendid promises of the emperor, returned to China in search of silkworm eggs, "though the exportation of them from that empire was punished with death." They got back to Constantinople in safety, toward the beginning of the year 555, and brought the precious eggs with them, concealed in their hollow pilgrims' staves. Nothing was now wanting to the success of the new industry. According to Byzantine authors, the eggs were hatched by heat of manure, and this process is still followed in parts of some countries. As soon as the mulberry-trees began to bear leaves, they served to feed the worms.

In Greece, too, noble ladies were the first to attend to the rearing of the worms, with the assistance of their servants and their children, and encouraged and extended the culture and the fabrication of silk throughout the whole country. Under Justin II., the successor of Justinian I., ambassadors from Sogdiana declared that the Grecian silk was, in no respect, inferior to that of China, and highly complimented the emperor upon his success. Silk was at length produced in such abundance that the emperor Alexius, as it is related by his daughter, Anna* the historian, "distributed, in the year 1005, on the eve of a battle with the Scythians, among those of his soldiers whom he was unable to provide with armor, helmets and breast-plates of iron-colored silk."

SOMETHING FURTHER FROM THE SOUTHERN EXPOSITION.

THE BEE-HIVE, AND SOME BEES THAT OUR FRIEND FREDDIE CRAYCRAFT NEGLECTED TO TELL ABOUT.

FREDDIE CRAYCRAFT wrote a very nice description of the great Southern Exposition, which was held at Louisville last fall; but I did not see any mention of the wonderful hive of bees that was on exhibition. They fairly outdid the Cyprians and Syrians, for they were not only in full blast after dark, but they actually *swarmed* at 10 o'clock at night. As to their disposition, it was so fiery that the exclamation of the Irishman who got stung by a honey-bee might have been very well applied to each of them: "Och! murther, how hot his little foot is!"

But to lay aside joking, I will tell of them. When the daily papers announced that, in honor of the bee-keepers' convention, there would be shown in the fireworks exhibition a piece entitled "Busy Bees," I was very anxious to see it. So when the sky-rockets began to fly, and the blue lights and Roman candles to blaze, I hastened out into the park and secured a good position to see the "Busy Bees." In due time that particular "piece," as it was called, was ready to be fired off; and in order that my young friends who have never seen an exhibition of fireworks may understand, I will say that the "pieces" which are intended to represent different objects, or mottoes, consist of great numbers of little Roman candles, lights of different colors, pinwheels, squibs, and other kinds of fireworks, arranged on a framework of wood, and raised ten or twelve feet from the ground on posts. Well, the pyrotechnist stepped up to one of these, touched a light to the quick-match that ran down the post, and immediately there was seen a streak of fire running up the post, and all around over the framework, lighting up innumerable little blazes that burned steadily in every color, and made a very good picture of an old-fashioned straw skep, with the motto under it, in large letters of fire, "*By Industry We Thrive.*" Just at the entrance of the hive, little squibs were continually falling and darting here and there, as they went toward the ground. It was a perfect representation of a hive of bees in full blast. After this scene had lasted some little time, suddenly it seemed as if the hive opened, and the little fiery bees *swarmed* out in great numbers, just as honey-bees rush from a hive. They shot up into the air, of all colors and sizes — blacks, Italians, and Cyprians; drones, workers, and queens, darting to this side and that, and I rather think that even *drones* of this variety of bees would sting considerably, if you should happen to catch them in your bare hands.

When it seemed that enough bees had swarmed out of that skep to fill several Simplicity hives, there was a loud explosion, a dozen sky-rockets shot up toward the heavens, and as a battery of Roman candles began to pop, pop, pop, near by, the wonderful bee-hive was gone, and nothing remained to tell of its brief existence but a wreath of blue smoke floating away through the trees. W. C. PELHAM.

Maysville, Ky., Jan., 1884.

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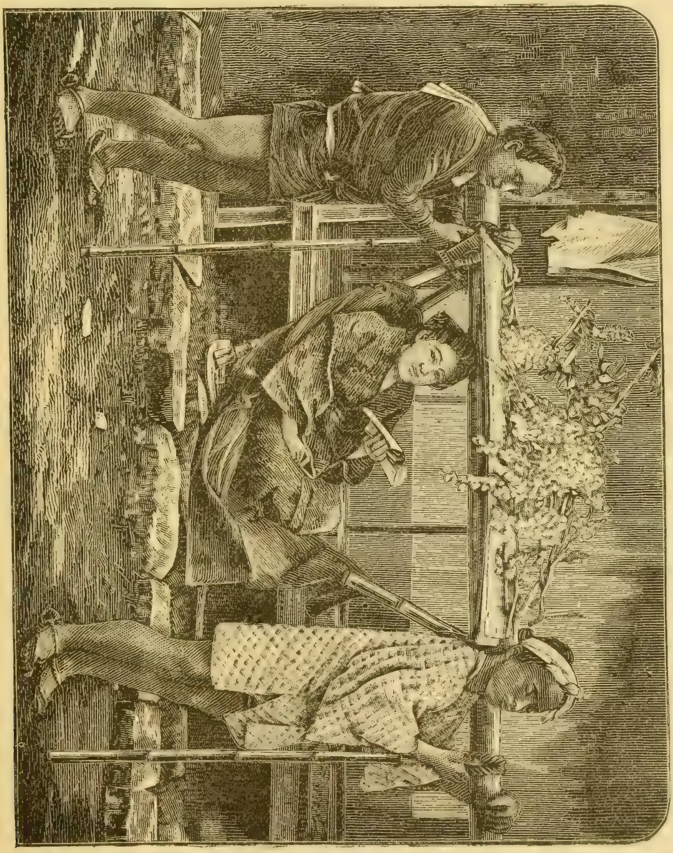
*Anna Commena. See Gibbon, in regard to the merit of her history.—THE TRANSLATOR.

LETTER FROM JAPAN.

BY A LITTLE GIRL ONLY ELEVEN YEARS OLD.

DEAR MR. ROOT: — You have so kindly sent us GLEANINGS for such a long time, that I thought I would write to thank you. Though we do not keep bees, we enjoy reading your journal very much. Papa had a hive of bees when we were in America, but it is such a long time since we left our home there, that I have forgotten nearly all about them. Papa often thought of writing to thank you for sending GLEANINGS, but always had so much to do with his mission work that he had no time to do so. But my dear papa died five months ago. He took sick from a poor woman he was attending.



THE WAY LADIES TRAVEL IN JAPAN: THE PALANQUIN.

The Japanese do not use honey for food; however, they have a "bee syrup" which they use as medicine. They consider it poisonous to eat with food.

The Japanese eat rice and fish a great deal. They use the bulbs of the lily and lotus flower. They do not use tables to sit around at meal-time, as we do, but each individual has a small stand about the size of an ottoman, with a rim around about an inch high. The ladies sit on their legs as if kneeling, but the men cross them in Turkish style. Their rooms are small; some so small they will not admit a bedstead. The Japanese think that bedsteads are very funny, and that beds are very soft and springy. One of my acquaintances said she would be afraid of falling off, if she slept on one, and at first she was quite afraid to sit on a rocking chair. On one occasion a servant employed in a foreign family had some relatives pay her a visit, and they thought every thing was very strange, especially sofas and chairs. The Japanese men have adopted the foreign style of dress a great deal. Cadets, soldiers, officials, and young men in government service have foreign dress entirely. But the way some of them stalk along the streets with a short-waisted coat, small and tight pantaloons, and ill-shaped shoes, with a stove-pipe hat, is ludicrous. They have taken a great fancy to canes, and also to Turkish towels, which they use as scarfs and small shawls, and nearly every one has a shirt, to which they add one or more of the following things: Hat, shoes, stockings, gloves, and necktie. The women dress in the native way except for umbrellas; however, some have adopted foreign dress, and wear high-heeled shoes, small parasols, cloaks and dresses; and though some of them look awkward with their hair done up in foreign style, and with dresses, gloves, and shoes on, still there are some that are quite at ease.

I will send a photograph of a kago, or Japanese palanquin, to the little girls you speak of in the JUVENILE. I have traveled in one; and though they are uncomfortably small for an adult, I was quite comfortable, for I am only eleven. Please give my love to the little girls. ADA M. KRECKER.

Tokio, Japan, Oct. 4, 1883.

Here is something further from our young friend Ada:

New Year's day is a great holiday in Japan. On the 1st every house has a small pine-tree before the door. Every person is out with his best, and mostly new clothing. Every family tries to have a breakfast of pounded rice cakes that have mashed beans in the center. On the 16th the Japanese think the door of heaven is opened, and all those in hell are having a holiday, so any wrong action is not reproved. Just now is the great kite-flying season in Japan. The Japanese kites are of a very different shape from the American kites. They are square, and have sometimes singers attached to them. Girls are playing battle-door and shuttle-cock.

Tokio, Japan, Jan. 9, 1884. ADA M. KRECKER.

I am sure, friend Ada, we all feel very much obliged for what you tell us about our Japanese brothers and sisters. I do not know but boys and girls might sit down cross-legged, or on their feet, as you say the women do; but for people no older than I am even, it seems to me it would be very fatiguing. Why, when I sit down to play with Huber after dinner, that way, it makes me feel so stiff that I can not walk straight for quite a little time afterward. But then, I suppose it is all in habit, although I think it would be very hard for old people, say those who can not sit easily without their easy-chairs. It seems to me that palanquin would be a very nice thing to ride in, if it were not for the feeling that somebody had to be lugging you around. However, if people wanted work badly, and were stout and able, perhaps they would enjoy the privilege of lugging you around, provided the pay were satisfactory. I am sorry our engraver didn't succeed in having the lady with a book a little more lifelike. In your photograph she was quite a beauty. One would imagine you must have warm weather there, or that good-looking young fellow would feel a trifle chilly going around bare-legged. It seems to me their ideas of decorum in the presence of ladies is a trifle different from ours. And about those Japanese kites, it is just wonderful to think of their all getting a mania for kite-flying. I know schoolboys sometimes all go on one thing for awhile, and then something else. What is it about the "singers"? That is something I never heard of. Is it something that the wind makes sing? I may explain to our readers, that we credited our friend Ada $1.00 for her letter and photograph. And what do you suppose she picked out of our list for the dollar? Why, it was the life of our President Garfield; and I don't know that she could have found any thing better to be sent clear to Japan.

JUVENILE·DEPARTMENT

Every girl or boy, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock, six different books, as follows: Silver Keys, Sheer Off, The Giant Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

"A chiel's amang ye, takin' notes;
An' faith, he'll prent it."

THE BABY OF THE HOUSEHOLD.

WELL, little friends, Huber has been sick. Is it not sad to see a baby sick? For a few days he tried to play, but he couldn't; and finally he just lay in his crib all day feverish, moaning plaintively. How anxiously we watched for his little smiles, and tried to make him notice us! In the evening I held him a little, while his mother fixed the crib for him, and all at once he turned over and made a grab at something. It was some letters he saw sticking in my pocket. I tried to have him take something else, but he whopped over and grabbed the letters in both of his hands, and then began to crumple them to hear them rattle, and finally pushed them into his little mouth, and tried to sing as he does about his play. We all rejoiced, because we thought he seemed better; and pretty soon he was really better, and would laugh and coo and sing in his way. Didn't you ever hear a baby eight months of age sing? Well, he does not sing any tune, but he just made a noise like an old biddy in a spring morning, when she feels happy. He always sings when he eats his breakfast. Well, when he got so he could laugh right out loud with a real boyish laugh, then we knew he was a great deal better.

My little friends, did you ever hear an eight-months-old baby laugh out loud? How it seems to bubble fourth in that delicious, childlike strain! His sister Blue Eyes had fixed a shawl over her head in a sort of comical way, and then she would run toward him, and he would make his hands fly, and feet too, and then just "ha ha" right out. The whole family gathered around him, and then we had to laugh right out too. Now, if your baby was never sick, you do not know how happy and thankful we felt to have him well again, and able to laugh and crow and play. Poor little dears! what do they know about sickness and sorrow and pain? But they are God's children, you know, as well as ours, and he has said,—

> Behold the fowls of the air: for they sow not, neither do they reap, nor gather into barns; yet your heavenly Father feedeth them. Are ye not much better than they?—MATT. 6:26.

My pa has 33 stands of bees. I have brown eyes. I have a little sister. She has blue eyes. She is three years old. I go to school. I read in the first reader.
Steelville, Ill. CORA SUESBERRY, age 6.

My pa's bees keep him. I like bees first rate, but I like honey better. The bees bite with their tails, but the honey doesn't. My pa has 13 stands, and they are wintering well. Bees get honey from Indian tobacco here. EDWARD E. VICARY.
Morrison, Col., Jan. 13, 1884.

THE PALED BEE-YARD.

This summer we gathered more honey from our hives than any of our neighbors. We have our bee-yard paled in now, and the bees fly over and through the cracks. I love to look at them. The worms killed one colony this fall, and it was the best one too; we got a great deal of honey from it.
JOHNNIE W. CALDWELL, age 12.
White Sulphur Springs, Ga.

MANDA'S LETTER.

My schoolmate said that you would send every little girl a book that would send you a letter, and she said that you were a great bee-man. We have some bees, but they are dying off for want of honey. We did have about 21 hives full. My papa does not take the JUVENILE, but I am going to coax him to take it. MANDA PRUSER, age 11.
Defiance, Ohio.

HONEY FROM SUMAC.

Pa had 12 hives last spring, and now he has 31. Last winter the moths killed one stand. Pa took a good deal of honey, but he did not weigh it. The bees gather honey of the sumac and other flowers. This summer has not been a very good honey year.
CHARLES A. KYLE, age 13.
Houston, Mo., Oct. 30, 1883.

FROM 14 TO 28, AND 600 LBS. OF HONEY.

I am a little boy, and my pa has 28 hives of bees. He had only 14 in the spring. He got more than 600 lbs. of honey, and has got all his bees in the cellar, except 2. He has a board fence along the north side of where his bees are in the summer, to keep the cold wind off them. He has a fence along the north side of his grapevines. HARRY HARTMAN.
Clarksburg, Grey Co., Ont., Jan. 3, 1884.

CLOTHES-PINS VS. NAPKIN-RINGS.

My brother has two swarms of bees, and they are living over winter so far. I will tell you a cheap plan for a napkin-holder. Take a nice white clothes-pin and put a pretty picture on it near the top, and tie a bright ribbon in a bow just above the split, and place the napkin in the pin. If you think this is worth a book, please send me Silver Keys.
CLARA BEECHER.
Hanna City, Peoria Co., Ills., Jan. 16, 1884.

Well done, Clara. Your fact is a novel one, certainly, and I confess I can not see why a clothes-pin is not just as good as a napkin-ring. It certainly will answer the purpose, if anybody likes them.

ABBIE'S MOTHER, AND HER BEES.

We have 39 stands of bees. I have one stand of my own. We have a little house to put them in, in winter. We have hay under them, and hay between, and pa's haystack almost over them. Mamma said she will sell out, if she can. She said it is too hard work for her. ABBIE SEARS, age 9.
Ashland, Neb., Jan. 3, 1884.

Now, Abbie, we have had quite a discussion as to whether bee-keeping is too heavy work for women. If I understand it, your mamma would rather take side with the affirmative, would she?

THE MOTHERLESS CHILDREN.

Well, Uncle Amos, it has been a good while since I wrote to you. Since then, my ma has died and left me and my sister to keep house. She died very suddenly on the night of May 11. I am 14 years old, and my sister is 11. I have two little brothers and two little sisters, the oldest 7 years, the youngest 3 years. I also have one large brother, 17 years old. Pa had the misfortune to lose almost all his bees last winter, on account of not getting them packed away in time. He was summoned on a jury just about the time he should have packed them, and was away for five weeks. He has been thinking of having his name placed in Blasted Hopes. Coal oil is good to take wax off your hands. I was at Sunday-school once this summer. There is no Sunday-school nearer than Milo—that is about six miles from our house. I don't suppose I shall go to school this winter, for I must keep house for pa, and help take care of the little ones. LOU. F. HALL.
Indianola, Warren Co., Iowa, Nov. 27, 1883.

May God bless and help you, my little friend.

Our bees, three colonies, are all we are going to try to winter this year. They are in good shape for winter, if plenty of natural stores is of any account. Each hive has eight Langstroth frames filled completely with honey and brood. We are trying a new way to protect them from the weather (or, at least, it is new to us) this winter. We leave the upper stories on empty, and lay a device (I do not know whose to call it) on top of the frames to raise the cushion, or make a passage for the bees, and fill the rest of the upper story with short cut straw, just thrown in loose, and the cover put on, and then the whole hive enveloped in corn-fodder.

I will tell you the way we put the fodder on. Just take two little poles that will bend easily; stick one end in the ground, and bend over and stick in the ground, and another pole the reverse, so that the bows cross right over the hive. Then commence and set fodder the same as it is shocked in the field, and tie with straw at the top, and you have a nice little house that will keep out wind and rain; and if the bees do die, the fodder will not spoil.

Our Sabbath-school is still in progress, and papa says they will try to keep it up all winter—something that has never been accomplished in this neighborhood yet. The weather is very rough and cold now here. It makes a person shrug up his shoulders to hear the wind whistle around the house.
VICTORIA J. FIELDS.
Valley Point, Pa., Nov. 28, 1883.

A SHORT LETTER FROM A LITTLE GIRL.

Pa has six colonies of bees. They are packed in chaff. I like honey, but I do not like stings.

Newburg, O., Jan., 1884. LOTTIE KELLY, age 5.

I helped my Uncle George take care of his bees last summer, and we had lots of honey. My pa is a mason, and I carry brick for him when there is no school. GEO. D. HILTON, age 7.

Fremont, Mich., Dec. 26, 1883.

FROM 13 TO 29, AND 400 LBS. OF HONEY.

My brother keeps bees. He started in the spring with 13 colonies; increased by natural swarming to 29, and got 400 lbs. of honey. His bees are blacks, but he intends to get Italians next spring.

Lieury, Ont., Dec., 1883. GEORGE DURR, age 10.

FLORA'S LITTLE LETTER.

My pa keeps bees, and I like them and honey too. I have got a little brother, 8 months old; he has blue eyes. He is a cunning little fellow. I have been only 27 days to school. FLORA J. RYMPH, age 9.

Port Erven, N. Y.

LITTLE CHICKENS ON CHRISTMAS DAY.

My brother has 10 stands of bees; he had 11, but some one broke one all to pieces to get the honey. We have 6 little chickens. We found them under the barn Christmas day, and we have got them all yet. LIZZIE MARGRAVE.

Nohart, Nebraska.

CUTTING A BEE-TREE, AND WHAT THEY FOUND IN IT.

Last summer pa found two bee-trees. This fall he cut one of them, and got only a few empty combs. He sold eight swarms this fall. We got about 400 lbs. of honey this year.

FREDDIE A. PEASE, age 10.

Kingsville, Ohio, Dec., 1883.

ELMER'S REPORT.

I thought I would tell you how papa is getting along with his bees. We have 40 colonies, mostly in your chaff hives, and the rest packed in chaff on summer stands. He has sold 15 colonies, to go off next spring. I have two little brothers, 2 and 4 years old. ELMER S. DIEFFENBACH, age 9.

Crosskill Mills, Berks Co., Pa., Jan. 1, 1884.

A RAT IN A BEE-HIVE.

My brothers keep bees. Winter before last they bought 3 swarms; this summer they had 25, but 3 of them died. The other day a rat got into one of the hives, and stirred the bees up so that some of them came in the house and flew around my mother's head. L. E. KINCAID.

Pleasant Ridge, N. C., Jan. 12, 1884.

FRANK AND HIS WHITE LEGHORNS.

My pa has 50 stands of Italian bees, and took out 3000 lbs. of honey. He gave me one hive of Italians. I took out 80 lbs. of honey. I have a team and harness and buggy. I have worked in the field since I was 8 years old. I have a fine yard of white leghorns, and I sell eggs, $2.00 for 13.

Ogden, Ia., Jan. 13. FRANK CONNELLY, age 14.

HATTIE THE BEE-GIRL.

I have very good luck with my bees; all are in good order. I keep them on their summer stands all winter. It is warm to-day. They are flying as in summer. I call my department the "Yellow Band." I have three hives; father has 20; I have a good time in summer. HATTIE the Bee-Girl.

State Line, Miss., Dec. 26, 1883.

FROM 3 TO 5, AND 100 LBS. OF HONEY.

This is my first letter. I thought all summer I would write, but I went to school, and I have a good deal of work to do at home. My pa bought 3 stands of bees last fall; they swarmed 5 times last summer. We took 100 lbs. of honey out of one hive; there is one hive we have not got any honey from.

Afton, Ia., Dec., 1883. IDA C. URAY, age 11.

HOW SADIE GOT STUNG IN THE NIGHT.

My pa keeps bees. He had 14 stands, but he sold one. Sometimes I help pa tend them. I have been stung twice—once when we were hunting for the queen, and the other time was in the night when I was in bed. It had got in the house somehow, and got on my ear. SADIE BOGGS, age 11.

Endicott, Neb., Jan. 24, 1884.

A LETTER FROM A 7-YEAR-OLD BOY.

I live at my grandpa's. My uncle Robert keeps bees. He has 18 stocks. Sometimes I put on my gloves and veil, and help him. I have two bantam chickens, a kitten, and we have two Jersey calves and two canary birds. We have a horse we call Dolly. I went to school until the snow got too deep for me. J. CLINTON DENHAM, age 7.

St. Clairsville, O., Jan., 1884.

HOW OUR BEES ARE GETTING ON.

Our bees are in the cellar. There are 26 stands, and one of them is mine. I got them a little way from our house, on a maple-tree. We found two in the woods near our house, but we have not got them yet. We did not get much honey this year, but we will try it another year. Pa is going to make an observatory-hive this winter. WM. TYRRELL.

LaPorte, Ind., Dec. 12, 1883.

LYDIA AND HER THREE WHITE DUCKS.

Pa has 8 colonies of bees. Last summer 3 of them swarmed. We got a good bit of honey from our bees. In the summer, when they swarm, I go out and see pa hive them. I like to see the little busy bees gather honey at the flowers, for I like honey very well. I have 3 white ducks; they come every evening for some corn. LYDIA MARTIN, age 11.

Goodville, Lancaster Co., Pa., Jan. 25, 1884.

EVA'S REPORT OF HER PA'S BEE-CAVE.

Pa has fed out 400 lbs. of honey to the bees. Our bee-cave is 28 ft. long, 7 feet wide, and 7 ft. deep, and covered with 2 ft. of earth, and a roof over that. There is a ventilator in one end, 1 foot square, and a door in the other end. They winter perfect every time, without any dwindling. Next time I write I will tell you about pa's bee-feeder.

EVA L. FARRINGTON.

Strawberry Point, Ia., Nov. 6, 1883.

LETTER FROM A 4-YEAR-OLD BEE-GIRL.

I am a little bee-girl. Don't you like me? Won't you send me a book? You sent Minerva one.

DAISY BELL DUNCAN, age 4.

Black Lick, Indiana Co., Pa., Dec., 1883.

Why, Daisy, it would be funny if I did not like little girls four years old, who can write letters, and a bee-girl besides. Why, it makes me real happy to think I have got such little friends. We send you a book, with great pleasure. Your letter was very nicely written, even if you did not put in any periods and other marks; but I guess we have got it all right, haven't we?

ANNIE'S FIRST LETTER.

My brother has 29 colonies in the cellar, and one outside. I help him to put frames and section boxes together. ANNIE S. GRINSELL, age 9.

Baden, St. Louis Co., Mo., Jan. 16, 1884.

FANNIE, AND THE QUEEN SHE FOUND "TWO TIMES."

Pa has 9 swarms of bees. He found one swarm in the woods. They were Italians. We had 3 swarms to commence with last spring. I helped look for the queen, and I found her 2 times. I like to look for queens. I put on a veil, and go out. One skip made 30 lbs. of comb honey. FANNIE B. MATHEWS.

Katonah, N. Y.

LIZZIE'S REPORT.

Papa has 5 swarms of bees. He had 7, but 2 went away this summer. He has them in Simplicity hives, surrounded with rough boxes packed with leaves; he has been taking GLEANINGS for two or three years; he says if he don't get more honey next year than this you must give him a corner in Blasted Hopes. LIZZIE BATTLES.

Blairsville, Indiana Co., Pa., Dec., 1883.

5000 LBS. OF COMB HONEY.

My father has about 100 hives of bees at our place, and about 30 at a place five miles from here, that a man works for extracted honey. Father works for comb honey; he got 5000 lbs. last year. He built a new shop last fall. He has a horse-power for his shop. He is making a sawing-machine now.

JEWELL TAYLOR, age 10.

Forestville, Minn., Jan. 10, 1884.

I am the little girl to whom you sent the nice book called the Roby Family. It was a good book. We all read it, and send many thanks to you. I can not tell you about bees, as you wish little boys and girls to, but pa says he will get some next summer. Perhaps I can say some thing about the busy little bees, but I do want another one of your books. Will you send me Rescued from Egypt?

AMY C. MCKESSON, age 13.

Brecksville, O., Jan. 21, 1884.

SUB-EARTH VENTILATION; BY ONE OF THE JUVENILES.

My pa keeps about 60 swarms of bees. I am almost a bee-keeper myself. I manage the honey-gate when pa is weighing honey. He has made a ventilator for getting fresh air. The air comes through the ventilator 4 feet below the top of the ground, and the air from the ventilator is not much warmer or colder than the air in the cellar.

BRUCE COLTON, age 9.

Waverly, Iowa, Dec. 30, 1883.

THE BEES THAT ABSCONDED, AND THE OTHERS THAT DIED.

We have 13 swarms of black bees. Last summer the first swarm we had was a big one, and it came out about ten o'clock, and it commenced to make comb; in the afternoon it came out and went off. We have not had much surplus honey this year, for it was a bad year. Last spring four of our skeps died. Will you tell me what made them die?

WALTER L. MORRIS, age 13.

Youngstown, N. Y., Dec. 29, 1883.

Why, Walter, it would be a pretty hard matter to tell why your bees died, without more facts in the case, unless I should say it was for want of breath. Was it not for lack of food, Walter?

MOLASSES FOR WINTER FOOD.

I received Silver Keys in safety, but have not got it read through, as I go to school and do not have much time to read. My brother has got his bees packed in chaff hives for winter, and he feeds them molasses every day. KATIE M. BRIGGS.

Deposit, N. Y., Nov. 27, 1883.

Friend Katie, unless your brother has better molasses than I have ever found under that name, I am afraid he will have trouble in wintering. I wish you would let us know in spring whether they come through all right or not.

3000 LBS. OF HONEY; THE BLACK PONY, AND THE WHITE-CRESTED BLACK POLANDS.

My father keeps 50 stands of bees, and took out 3000 lbs. of honey. I have one stand. My father packed them late in the season, and I did not get any honey. My bees are Italians. I found one great big swarm of bees in the grove. I have a little black pony, and I rode at our fair, and got first premium when I was 9 years old. I have a yard of white-crested black Polish chickens, and sell eggs at $2.00 per 13. SARAH CONNELLY, age 12.

Ogden, Iowa, Jan. 13, 1884.

BEES THAT WERE PUT UP STAIRS, AND HOW THEY TURNED OUT.

My papa caught a swarm of bees in the corn-field; and when cold weather came he put them in the cellar, and up stairs, and in the house. They would come out, and papa would have to catch them and put them back; and when spring came he had no bees at all. Now, my papa bought a stand of Italians last spring; he swarmed them twice last summer; thinks he will have better success this summer. He sent for 500 of your pound sashes.

WILLIAM HASENYAGER.

Tecumseh, Johnson Co., Neb., Jan. 18, 1884.

I presume, William, your pa did not put the bees up stairs after that. Unless you have a good dry dark frost-proof cellar I think they had better be outdoors, packed in chaff. I have never heard of very good success with bees up stairs. Light gets in during warm days; and when the winter is very cold, it is apt to freeze.

I thought I would tell you how pa is getting along with his bees. We started in to winter 9 colonies last winter; doubled to 7 in the spring, and had 21 this fall; doubled to 18. We got about 400 lbs. this fall. Pa hasn't any extractor yet, but thinks he will have to have one. I will tell you how pa winters his bees. He leaves them on their summer stand, and cuts coarse slough grass, ties it in small bunches, sets it up nicely around the hives, like shocks of rye or wheat, and ties a cord around near the bottom, and around the top. He has very good luck getting through the winter. This was a very poor season for honey, as it was so wet and cold and windy. Pa has bought 50 new Simplicity hives. He has not got frames enough for them. He thinks he will have to order some for them from you. Pa is well pleased with the A B C book and the smoker you sent him. We are going to school this winter, and we like our teacher very much. I say *we;* I mean myself and my twin sister Louisiana. I have a little sister 8 years old. She says it seems we get so many books from you we ought to know you.

ALABAMA ALLISON, age 14.

Beaver Crossing, Seward Co., Neb., Dec. 31, 1883.

My father has no bees. We had some, but when winter came they died, and we never had any since. I have seven sisters and one brother. I should like to come and see your little boy Huber.

SOPHIA HASELBARTH, age 12.

Defiance, Ohio, Nov. 28, 1883.

My pa has 50 stands of bees. He is going to pack them soon for winter. We pack our bees in the cellar. We did not have much honey this year. I am not going to school this week. I have got a little baby brother. His name is Fred. I think Fred is a prettier name than Peter. LINA LANGTON.

Windham, O., Oct. 29, 1883.

JOHNNY AND HIS BROTHER; THE BEES, AND THE CALF.

My brother and I have three hives of bees. My grandpa was moving bees Saturday. We have seven head of cattle. I have one calf, and I call her Rose. This summer a swarm of bees went over our house.

Montrose, Lee Co., Iowa. JOHN E. ALVIS.

ARTHUR AND HIS PETS.

As my sister wrote you a letter, I thought I would write too. Pa has got one stand of bees I call mine. He said it was the biggest stand of bees he had. As the other boys are telling what their pets are, I will tell you what mine are. I have a pet cat, and a pet lamb. My lamb got its leg broken last summer. The Sunday-school had a Christmas-tree here. I got a box of water-colors. I love to paint with them. This is my first letter. ARTHUR W. COOMBES.

Memphis, Ind.

My pa bought a swarm of hybrids last spring. They increased to four. The two last ones were small, so he fed them sugar so they would have plenty of honey to winter on. This fall he bought six more, so now he has 10 fine Italians and one Syrian. The mother of one Italian swarm is an imported queen that came from your place. I like honey, and like to see the bees work; they sting me sometimes. Pa is going to send for the A B C and GLEANINGS this week, and a smoker.

Bettsvile, O. JOHN H. WHITNEY, age 11.

HOW MAMMA GOT THREE SWARMS OF BEES.

My father has 17 swarms of bees, and they all started from a third swarm. They are all but one swarm buried in the garden, and the other is in the cellar. They are all in old-fashioned hives. Papa is going to get some new hives. What kind do you think would be best? Last summer papa went fishing, and told mamma that she could have all the bees that came out, and there were three swarms when papa came home. He thought mamma had a pretty good day's work. We live on a big farm.

DeRuyter, N. Y. ANNA LEWIS, age 12.

A CAUTION ABOUT USING SMOKERS.

Pa commenced last spring to take care of bees; he bought 12 swarms; they swarmed nearly all of the time; he has 28 swarms. He had bees in 31 hives, but other bees robbed 2, and he got fire into one with his smoker while taking off honey which scorched the bees, and melted the honey before he discovered it. He has about 600 lbs. of white comb honey, and about 40 lbs. of buckwheat comb honey, besides some extracted.

Moravia, N. Y. MINNIE M. WHITNEY, age 13.

Minnie, tell your pa to be careful to give the smoker a puff just before he blows the smoke on the bees, and then he won't get any sparks in the hives.

A NICELY ARRANGED APIARY OF 115 HIVES.

Pa has 115 colonies of bees, and I help him in the apiary, and go to school whenever there is one in the district. Pa has a Barnes foot-power saw, and enough material cut in shape for 75 two-story Langstroth hives, and a honey-extractor, uncapping-can, lamp nursery, and lots of other things. He has his bees in the orchard, and winters on the summer stands, packed with straw and leaves, and he has a screen of evergreens about 12 or 15 feet high, on the west side of the orchard.

OLIVER R. MOSS, age 12.

Colchester, Ill., Jan. 21, 1884.

THE NEW HOUSE, ETC.

As my sister Maud wrote to you, I thought I would write too, as I was 10 years old last December. We are living in our new house, and we find it very comfortable, through this cold weather. This is the first letter I have written; I go to Sabbath-school, but I have not been since we burned out, for I have not had any thing to wear. Pa has got some of his bees down cellar, and some outdoors, packed away for winter. Those that are down cellar are happy. Does the new railroad come near you? If it does, I am coming out there to see your little Huber that I have read so much about.

NELLIE MAY LATHROP.

Marshall, Mich., Jan. 7, 1884.

HENRY'S OPINION OF THE SIMPLICITY HIVE.

Father has 8 swarms of bees. We have the Simplicity hives; this winter we made eight boxes. I have a swarm too. The Simplicity hive is a very handy box for bees, but some people say they don't like the Simplicity hive. They say that you can't see if they have honey or not; but we like them, as they are so handy to look at, if they have the sections full. I like to be about the bees when they swarm. I like to help to hive them. Jonathan Horst has 17 swarms, and he made boxes in our shop. We have a circular saw, and a little horse-power to run it, and he made 12 boxes.

HENRY W. MARTIN, age 13.

Goodville, Pa., Jan. 25, 1884.

CLARA'S ACCOUNT OF CUTTING A BEE-TREE.

Papa has 6 stands of bees, all packed over head and ears in chaff. They are all hybrids but one Italian. They made what I call lots of honey. One young swarm made 69 lbs. of comb honey in pound sections. As we have no basswood here, don't you think that was well done? Papa got a queen from Mr. Doolittle, but she was a hybrid; then when they swarmed they went to the woods. Papa and Uncle John found one in a tree. The man who owned the tree did not want it cut, so they climbed up. Papa said it was a large pine-tree. It was 70 feet up to where the bees were, and they cut a hole and took the honey out. They got 6 big buckets full of comb honey. They let it down with a long rope.

CLARA HUSTON, age 10.

Somerset, Somerset Co., Pa.

CHARLEY'S FIRST LETTER.

Ma has 18 colonies of bees. She commenced two years ago with three hives. Her bees didn't do very well last summer. Ma keeps geese, ducks, turkeys, and hens. I have two sisters and two brothers. My pa is a farmer. He has 5 "eighties," all improved but 40 acres. We have three span of horses, pigs and cattle, four cats, one dog, and lots of doves. I took my music lesson a week ago. I love music. I go to school. I haven't missed one day, nor been tardy. I like my teacher. I do lots of chores. This is my first letter. If you can read this, please send me Ten Nights in a Bar-Room.

Charles Artis, age 10.

Augusta, Eauclaire Co., Wis., Jan. 21, 1884.

A PAPA WHO DOESN'T DRINK NOR SMOKE NOR PLAY CARDS.

Papa has two bee-yards — one here and one in Olmstead. He has but two hives here. He says they did not freeze up this time, in spite of being the coldest weather we ever had. Papa makes all his hives himself, and sells a good many besides. He doesn't drink nor smoke nor play cards. He is the best papa in this wide world. I shall keep bees, too, this coming summer, and so will my little brother Johnny.

Bertha Kuehne.

Cairo, Ill., Jan. 25, 1884.

HARRY'S PROBLEM.

My pa has 19 swarms of bees, mostly in chaff hives. One swarm went away last summer, but pa followed them to a tree. Last fall he cut the tree and got 30 lbs. of honey. Pa said he would give me a swarm of bees if I would make a Simplicity hive. I have a problem for you. A man had an 8-gallon jar full of oil; also a 5 and a 3 gallon jar, and wanted to divide the oil equally between the 5 and the 8 gallon jars. How would he do it? Pa sent for the Story of the Bible, and I have it nearly read through. We all like it.

Harry Labarge.

Ada, Kent Co., Mich., Jan. 25, 1884.

Harry, why wouldn't it do to call it honey, instead of oil, and then you know it would be just right for a bee-paper? By the way we have to change honey around here, we might have to do that very thing. Who will tell Harry how we shall have to manage it?

FROM 8 TO 25, AND 300 LBS. OF COMB HONEY.

Editor Gleanings:—My brother and I keep bees. Winter before last we bought three hives, and they increased by natural swarming to eight the first year; all came through the winter strong. Last spring we had a lively time of it during swarming season. They increased to 25 large swarms. We took 300 lbs. of comb honey in the spring, from 8 hives. The summer was so dry that we did not get any honey this fall. The winter was so mild up to Christmas that the bees have been flying out of the hives. But it turned suddenly cold, and snowed, and left some of the little fellows sticking to the fence-rails. Being overcome by the cold, they could not get back to the hive. We also noticed one little fellow creeping on the snow, but he soon froze to death. We supposed it had been run out of the hive for some misbehavior.

W. T. Kincaid.

Gastonia, N. C., Jan. 14, 1884.

HONEY AND POLLEN IN JANUARY.

I had 10 stands of bees in Simplicity hives. One of them died; five are Italians, and the rest are black. We had lots of pollen on the 16th of this month. Four and five bees came at a time. This day, the 18th of January, lots of pollen. The bees are falling down in the sand because of pollen. There have been lots of little blue flowers in bloom all winter. The bees get their pollen and honey from willow. The one that died was a nucleus.

Charlie Rusk, age 16.

Milwaukee, Oregon, Jan. 18, 1884.

Thank you, Charlie. It is quite interesting to get the knowledge of the countries that you juveniles give us. Now, I did not know before that Oregon is so much warmer than it is here. I had got a kind of idea it is cold, because it is away up north by Canada.

REPORT FROM A FOUNDATION MACHINE, BY ONE OF THE JUVENILES.

The machine that you sent pa works nicely. We have made 31 lbs. on it. We have 51 swarms of bees. They are all alive yet, nearly all in chaff hives. We have had some very cold weather, down to 22° below zero. Pa's bees made about 900 lbs. comb honey in 1-lb. sections. They would have made more, but we could not stop them from swarming. We hived 28, and put as many back, and one went to the woods. Pa never puts unsealed brood in new hives, and he never had more than two swarms go away, in seven years.

D. E. C. Routzon.

Findlay, Ohio, Jan. 7, 1884.

FROM 16 TO 40, AND 700 LBS. OF HONEY.

Pa had 17 stands of bees. He lost one in winter, and several were very weak. He has increased to 40, and taken 700 pounds of honey — 500 extracted, and the rest in one-pound sections; 33 are in your chaff hives, all painted white, with brown corners and top, each with its number in the center of the front, with the upper story filled with forest-leaves, the rest in the cellar. I have a little sister. She has blue eyes too. As all other little girls are telling what they can do to help their mammas, I will tell you what I can do. I wash dishes, sweep, and churn, and take care of the baby. I go to school. I am in the third grade. I feed the chickens, and hunt the eggs when I get home from school.

Pearl E. Vinant, age 8.

Sunman, Ripley Co., Ind., Dec., 1883.

HOW THOMAS HELPED HIVE A SWARM OF BEES BAREFOOTED.

My father has 41 stands of bees; he is wintering 11 in chaff hives, and 30 in the cellar. I hope any won't die, for I like to see them swarm. It is hard for my father to tend to them, as he has but one leg. The other was lost at Jackson, Miss., July 12, 1863. I help him as much as I can about them. When he takes off honey I carry it to the house. I have three brothers. The youngest one, the bees don't like nor does he like them. When they sting him it makes him sick. Last summer two stands swarmed at the same time, and alighted in the same tree, in a cluster. I had to be careful where I stepped, for I was barefooted. I climbed the tree and shook them off in the swarming-box. I held till my father got through the fence. They were not light. We put them in the same hive in the afternoon. We took half the frames that were in that hive, and put into another.

Thomas Stock, age 13.

Nashua, Iowa, Jan. 16, 1884.

FLORENCE'S FATHER AT THE FAIR.

Pa started with 15 colonies of bees, and increased to 30 colonies. He took the first premium at the county fair at Charleston, Ind., on comb and extracted honey, bees, extractor, honey-knife, and bee-hive. He made an observatory-hive, so they could see the bees. There was a crowd around him all the time, to see and ask about the bees. Pa has got one colony of hybrids which made him 266 lbs. of extracted honey. He could have taken 50 more lbs., but he wanted to feed it to the other bees. He did not have any trouble in selling his honey. He could have sold more than he did, if he had had it to sell.

Every time our neighbors had a swarm come out, they would come to pa to have him hive them, and get a hive of him to put them in. I visited the Louisville exposition last fall. I saw the "baby engine," and saw them weaving gingham. My uncle, James M. Gray, had a hominy-mill there. Uncle James has got bees, but he is afraid of them.

FLORENCE E. COOMBES.
Memphis, Ind., Jan. 13, 1884.

FROM 9 TO 20, AND $68.00 IN MONEY.

Pa has 20 colonies. He reads bee journals and books all the time. He had 9 colonies last spring, and he sold bees and honey to the amount of $68.00, and increased to 19 by swarming. He gets 16⅔ cts. for extracted, 25 cts. for comb honey. We keep plenty for our own table, and ma puts it on the table every meal — bread and butter and milk. I am afraid of bees, but I can tell when they are robbing and swarming. I know the queen, and can tell drones and workers. Our honey candies in cold weather now; but before we moved across the street, our honey never candied. Pa is a carpenter, and makes all hives. He wanted me to study the bee-books, and read the journals, and be a bee-keeper. I am almost nine years old. I should like the Giant Killer. The clerk who opens the mail will please put this at once in the purple basket.

JOHNNY LAWRENCE.
Linnville, Ohio, Jan. 28, 1884.

Well, I declare, Johnny, you deserve the Giant Killer, and I thank you, too, for the excellent report you have given us. But if all the juveniles demand that their letters be put into the purple basket, what will become of the other folks?

ANOTHER HIVE WITH OPEN CRACKS, AND SPLIT FROM TOP TO BOTTOM.

As I have been studying in the house a good deal lately, I have noticed the bees considerably. The old box hives that did not have caps on were wet inside, while those that had caps on were dry; so I got all the caps I could, and put them on. Pa has kept bees a good many years, and one winter the bees, all but one hive, winter-killed, and that one was an old box hive that was split clear up and down. We have that one yet, and I believe it is the strongest swarm we have, for it always sends out several strong swarms. There are cracks on both sides of it; one of them is nearly half an inch wide, so we give our bees plenty of air on top. There is one swarm in a Langstroth hive that I do not believe will live until spring, unless it is fed. Will you please tell what to feed them? I have been studying my A B C lately, and have got to "Hive-Making."

EDWIN J. STICKLE.
Macomb, Ill., Jan. 25, 1884.

We have pretty good proof, Edwin, that bees winter with ventilation such as you mention, when they would die without it; but I believe there is such a thing as giving too much ventilation; for instance: Yesterday was a warm day, and the bees were flying, and we examined some of the hives. Well, they were found to be all right, except one. This one was opened late in the fall, to get some bees to put in with some queens. Whoever opened it did not put back the chaff cushions properly, and an opening was left right up through to the cover. The bees were all dead, and a good many of them had crawled up through this opening. Feed your bees candy, as directed in your A B C.

THE OIL-WELL.

Papa has 11 hives of bees, and I have one. Six are in the cellar, and six outside. But this cold weather, from zero down to 20° below, we would rather have had all of them in. Papa has an oil-well and a feed-mill attached to the oil-well engine. He ground about 4000 bushels of grain into feed the last year. The mill is an 18-inch vertical buhr stone. The oil we get, we use in the lamps just as it comes out of the well. It is good oil, and safer than some of the refined oil. It produces only three-fourths of a barrel per day; was drilled in 1877. This is my first letter. If you think it worth a book, please send Silver Keys.

MARY E. SOMERVILLE, age 8.
Brady's Bend, Pa., Jan. 26, 1884.

Well, now, Mary, that letter is a very interesting one — to me, anyhow. I once sunk a well for oil, but I did not get any. I should think that three-fourths of a barrel of oil a day, good enough to burn in lamps, just as it comes from the ground, would be quite a nice thing to have. Is it not wonderful to think of getting oil out of wells? I can remember when no one ever heard of such a thing; and what do you suppose they had to read by evenings? Why, just greasy tallow candles. I suppose some of you children nowadays would hardly know what a tallow candle is for. May God be praised for the oil, as well as for the honey and all other blessings.

A COUPLE OF PRINTED LETTERS FROM GEORGE AND JESSE.

MISTER ROOT, DEAR SIR:—I SEE SOME OF THE BOYS AND GIRLS ARE PRINTING TO YOU, SO I THOUGHT I WOULD PRINT YOU A LETTER, AS I CAN NOT WRITE. I HAVE TWO LITTLE BROTHERS AND ONE LITTLE SISTER. I AM THE OLDEST OF ALL. MY PA KEEPS BEES. HAS 35 SWARMS. ALL ITALIANS. MY LITTLE BROTHER ALMOST TWO YEARS OLD USED TO FOLLOW PAPA OUT WHEN HE WENT TO WORK WITH THE BEES. HE WOULD PUT HIS HANDS ON TOP OF A CHAFF HIVE, AND STAND ON HIS TIPTOES, AND THEN HE COULD JUST PEEK OVER INTO THE HIVE. PAPA SAYS I MAY SEND YOU A REPORT OF HIS BEES AND HONEY. HE COMMENCED IN THE FALL OF 1880 WITH TWO SWARMS, BOUGHT OF DAN WHITE; IN 1881, EXTRACTED 120 LBS. HONEY, AND INCREASED TO SIX; IN 1882, EXTRACTED 900 LBS. HONEY; INCREASED TO 16; 1883, EXTRACTED 840 LBS., AND INCREASED TO 35. HE MAKES ARTIFICIAL SWARMS, AND BREEDS ALL HIS QUEENS FROM AN IMPORTED QUEEN HE GOT FROM YOU. WE NEVER HAVE LOST A SWARM.

GEORGE KNAPP, AGE 7.
ROCHESTER DEPOT, O., JAN., 1884.

I WANT TO PRINT SOME TOO. WE ALL GO TO CHURCH AND SUNDAY-SCHOOL. MY PAPA'S NAME IS N. A. KNAPP. HE SAYS, ASK MR. ROOT IF HE EVER HAD A YOUNG QUEEN COMMENCE TO LAY AS LATE AS OCTOBER 25, AND DRONES FLYING NOV. 4. MAMMA GIVES US ALL THE HONEY WE WANT TO EAT.

JESSE KNAPP, AGE 5.
ROCHESTER DEPOT, O., JAN., 1884.

Yes, Jesse, I have had queens commence to lay as late as October, although I do not remember that I ever saw any drones fly in November.

Our Homes.

For what is a man profited, if he gain the whole world, and lose or forfeit his own self? — LUKE 9:25, *New Version.*

OUR prayer-meeting had closed at half-past six on Sunday evening, and I was just about half a mile from home. The weather was very cold indeed; but as I have always been in the habit of boasting that I can always keep warm if you will let me go on foot, I did not anticipate any thing unpleasant. Before I got home, however, I began to fear my ears would freeze. I held my mittens over them, but this prevented my swinging my arms, and so I got quite chilly before I got into the house. Notwithstanding being cold and supperless, something seemed to be telling me that I ought to attend the meeting at the —— church, where a number of our hands had been going, and some had risen for prayers. I told Mrs. R. I wanted some supper real quick, because I felt as though I ought to go to meeting.

"But you won't get your ears warm before meeting time, my husband, to say nothing of getting your supper." And so I began to think perhaps I wouldn't go. So much zeal such a cold night would look, at least to the friends at home, a little singular. Now, in my younger days I used to pride myself a little on being singular, and used to like to have folks make observations on my eccentricity. Of late years I have felt this to be wrong and wicked, and have studied to avoid singularity. Are there any of you, my friends, who have had that same kind of feeling, that you like to be thought odd and peculiar? Well, take my word for it, that it is a grievous sin. It is a sin against God and your fellow-men. It mars your value in society, and your ability to be of use to your fellow-men. If you are a Christian, you have no right to want to be thought funny, or different from other people. You can hardly do so and be truthful and honest; and your first duty toward your God and your fellow-men is to be frank, honest, and sincere. After I had finished my supper, and had got somewhat warmed, I still felt that I ought to go to that meeting; and even though it was late, I decided to go; and as soon as I had so decided, I felt a sort of peace that seemed to say I was doing right. I often have these impulses, as you know, friends, and I almost always get a blessing when I follow them. Please bear in mind, that I mean *right* impulses. We have impulses to evil, as well as to good, and it would be a very sad mistake indeed to confound the two in the least.

Preaching had commenced when I got in, and I did not catch the text; but the good pastor was telling a little story by way of illustration. The story, as near as I can remember, was something like this:

A man who had been greatly addicted to intemperance, and who had promised to break off so many times that his wife had almost lost hope, and it seemed as if it was a waste of words to make any more promises, or have any more talk about it, was in deep remorse and sorrow, after a terrible spree he had just passed through. What should he do? He commenced in this way:

"My dear wife, I am going to stop drinking." These words fell on her ears without awakening any feelings of joy, for it was the old, old story. He resumed: "This time I will put it in writing." At this she brightened a little, but not much; for what good would writing do for a man who had no respect for his word? The next sentence almost gave her a ray of hope. Said he: "I will put it in writing, and will send for our family physician to sign it for me, and to help me. We will also get the pastor of our church to unite with me to witness my signature, and to help me to be a man." As she was a professing Christian, this gave her a great thrill of hope; for we all know that where a man goes to God, as did the prodigal son, with humility and sincerity, Satan's work is at an end. "More than this, my dear wife, the doctor and the minister and myself with you, if you will go, will visit all the saloons in our place, and everywhere that intoxicating drinks may be procured. We will show them the paper and the signatures; and if it be a possible thing to save me, it shall be done."

All that he directed was done, for the minister and doctor gladly consented to their part, (what minister and doctor would not?) and everybody rejoiced, for it seemed that our poor weak friend had made a sure thing of it this time. He had himself brought about prohibition. Do you want to know how it turned out, friends? He was a sober, steady, industrious man for just about eight months. At the end of that time his wife was notified that he was at a neighboring town some eight or ten miles distant, in a state of helpless intoxication, and that she had better come and get him home. Only God knows of the sorrow and grief that attend a poor wife who is called upon to pass through scenes like this. Had it not been for the knowledge that he posesssed, that liquors could be obtained by going to a neighboring town, he might never have fallen. God grant that the time may come speedily when this work may be stopped. Now for the man of our illustration, or was he indeed a man? How much manhood is there about one who has broken his word and his promise so many times that no one wants to hear him promise any more? Does not the world say with almost one voice, that the *man* part is gone? The soul is gone; the God part that is in us all, if you choose, has been bartered away and sold, and Satan rules. Satan owns the man, soul and body. The common version of our text is, in fact, "What shall it profit a man, if he shall gain the whole world, and lose his own soul?" Our good pastor was trying to tell the people there assembled, that there is great danger of losing their souls right here in this world.

Within the past few months, my mind has been, as a matter of necessity, turned a great deal toward steam-boilers and steam heating. It has been an interesting study for me to follow the intricacies of the laws of heat and the laws of condensation; and in carrying steam over to our house, queer facts have been brought to my notice. For instance, if we want a steam-boiler to do work, we must look out for the outlets. If steam is escaping at any point, even a mile away from the boiler, the engineer may pile in shavings and coal, and do his utmost, and yet not keep the steam up. When every thing is tight, the steam set free even under one little boiler may do a vast amount of work, and serve over a vast territory. It will warm up the house as if by magic, turn great wheels, melt wax and honey, cook food, and prove a wonderful help in many departments of life; and while it is kept within bounds, the engineer has not a very difficult task to keep every thing moving nicely. Let even a little leak show itself, however, and although the steam that first escapes is so insignificant as to make no perceptible difference, if allowed to go on unchecked, soon wears the orifice larger, and by and by it whistles through with a shrill scream, as it were. The pressure on the pipes of the whole institution diminishes, and seems to rush frantically, as it were, to the place of outlet. The machinery slacks, the great pipes cool off, and so long as this little opening, far away and out of sight, it may be, remains uncared for, the whole steam-boiler is for the time almost useless. How should the steam in the pipes, far away, know that there is a place of exit here? And why should the whole establishment suffer from just this one little flaw?

So it is with a human life. We learn from ancient history that Thebes had a hundred gates. I have sometimes thought that there are a hundred gates, or places of danger, to the human heart. While all of these are closed, or carefully guarded by the vigilant owner, he is a useful member of society; but let one in the hundred get open, or unguarded, and the soul of the man oozes out, little by little, and he is a lost soul. The man may be perfect in every respect, except that he has longings for strong drink that sometimes overpower him. If they have overpowered him once, they will be pretty sure to do so again, and each time he yields he is less of a man. If he has a violent temper that he sometimes gives way to, this is another opening through which manhood may go. If he is addicted to untruth, and has become hardened so that he does not scruple to falsify when he thinks he won't be found out, steam has commenced to escape; and if the break is not promptly closed, the man is soon useless. Did you ever know a person whom you had learned to put no dependence in? and have you noticed how quickly everybody found it out, even the children? And the poor fellow, unconscious of his fall, goes through the world passing falsehood for truth, and thinks nobody detects it.

Within a few days back, another opening has occurred to me where one's usefulness and value to society ooze out, and it is a sin of which most of us are more or less guilty. It is in falling into a habit of commencing a great many things which we never finish—of scattering our powers. A farmer chops a tree down, and then lets it lie and rot; a mechanic begins a machine or a vehicle, and consoles himself by thinking that some day when he feels like it he will finish it up. Pretty soon the individual has a life full of half-finished projects. He gets behind hand and in debt, while if all the labor he had bestowed on this, that, and the other were utilized and turned into cash, he might be out of debt, and have a little surplus besides. Such habits are like escaping steam, that will ruin a man if he does not shake them off and free himself. Now, it is not only direct falsehoods, evil habits, and half-finished tasks and things of this sort, that cause a man to lose his soul in the sense in which I have put it, but there are things not at first as apparent as the positive sins, that may lead to the same result. When we laid the steam-pipes over to our house, I declared to the men who were doing it that the pipes must be absolutely dry, and therefore on my own responsibility, although they did not seem to think it really necessary, I had a tile underdrain laid in the ground under the box that held the pipes. During the flood of water we had a few days ago, while the ground and many outlets were held fast in frost, the water backed up in this drain, and covered the steam-pipes. I was watching for the effect. The engineer soon announced that he could not keep up steam possibly, although every outlet was absolutely tight. The trouble was, ice-cold water had backed up and covered the steam-pipes; and before steam could be made to pass through these pipes, this whole body of ice water, with the cold wet ground surrounding, must be raised to the boiling-point of water. The consequence was, that while there was no opening in the pipes, the ice water surrounding them condensed the steam as fast as the boiler could make it, and such an immense draft on the powers of the boiler and fuel was more than it could stand. When the steam was shut off from this line of pipes, all went well.

You see, friends, although there was no break or flaw in the pipe, the surrounding influences made almost as much difference as a break would. A young man with the best of parents, under the influences of friends, home, and Sunday-school, Christian people, and all else that can be brought to bear, is not safe against the corrupting influences of bad society and late hours. It would corrupt a saint to be compelled to be where he daily heard blasphemy, obscenity, irreverence toward God, and things of that kind. Nothing can be brought to bear on a young man to counteract constant evil associations and surroundings.

It is a Christian duty for every man to keep away from bad influences as far as he can, and neglect no necessary duty. A part of the Lord's prayer includes this thought—keep us from temptation. For a time, we may not see that contaminating influences are doing us harm; and we may think that our trust in God, and our hold on spiritual things, is such that nothing can shake it. But remember, that he that thinketh he standeth should take heed lest he fall. It is customary to cover steam-pipes with a sort of non-conducting material, to prevent condensation, and to retain the heat. And so should a Christian do. He should surround himself with good influences, with Christian friends; and when it is necessary that he should go into the haunts of vice, and among the lost, he should go protected and fortified by prayer, and by God's word.

I want to speak of another way in which a man may lose himself, or lose his manhood. Getting into quarrels, or having difficulties with individuals, is like leaving the pipes unprotected, or letting the steam escape. Did you ever notice, dear friend, that when you once decide that it is your duty to stand out with somebody, how quickly another man seems to be in the same attitude, and you feel it a duty to stand out against him? In other words, if you quarrel with one man, the chances are very great that you will soon quarrel with another, and the third one comes quickly along, and so it goes. If you have a lawsuit on your hands, struggle against it as you may, you will be in great danger of having another lawsuit with somebody else in a little time, until eventually you have a lawsuit on your hands all the while, or three or four of them. When Satan once gets a finger hold, he makes diligent haste to follow up his advantage, and pretty soon the man has lost himself, and Satan has him in his power. It is on this account mostly that I am afraid to go to law. I am afraid of stepping over the bounds, and of going further than a Christian ought to go. So long as we are entirely out of the turmoil and strife of the world, and looking constantly to God for counsel and guidance, we are comparatively safe; but when it is necessary to step out and take up the defensive or offensive, as it may be, then must the Christian be careful. All the world is looking on, and everybody is saying, "Now we will see how the Christian does." And woe betide the man if he gets proud or haughty or stubborn, or forgets to seek daily in his closet, on bended knees, God's guidance and God's wisdom.

It may be right to stand out, it may be right to go to law, and it may be right to take a man and hold him up before the public, no matter what consequences ensue; but before we undertake things of this kind, my friends, we should be very careful. Ernest told me, a few days ago, that in one of the classes in college they were discussing whether it were *ever* right to deceive. The professor, an old gray-haired man, said to some of the boys who pressed the question hard, that perhaps it might be, under certain circumstances, right to use deception; but he told them, with a sly twinkle in his eye, that none but old men were ever privileged to do things of this kind. Now, it is so about standing out in a way that brings lengthy quarrels. Almost any thing should be sacrificed, rather than to get into a quarrel; and when it is necessary, one had better be pretty well along in years, that he may have wisdom and discretion to enable him to be careful and judicious.

A man's character, or soul, is largely made up by his truthfulness. If you decide that circumstances make it right to depart from the truth just a little, you have opened a passage-way for the steam to escape; and before you know it, your very self begins to ooze out. One can not stand still on this ground, for Satan follows up his advantage; and worst of all, he persuades you that you are all right, till you have become so untruthful that your character is like the escaping steam that screams as it hisses from the broken orifice; and yet while this is apparent and disgusting to all the world, you yourself don't know it. If you would save the God part that makes you a man, be careful, I beseech you, my friend, how you accustom yourself to be loose about statements of fact. If you have ever had a weakness that way, make it your life work to fight it down and trample it under foot.

And the tongue is a fire, a world of iniquity; so is the tongue among our members, that it defileth the whole body, and setteth on fire the whole course of nature; and it is set on fire of hell.—JAMES 3:6.

Now, our good pastor, at the close of his sermon that I told you about in the fore part of this paper, spoke something as follows:

"My friends, I want to say one word more about that man who had lost his soul. Some time afterward, a colored woman came to the town where I was preaching (for I was the pastor who went with him to the saloons with his family physician), and this woman was enabled so to hold up the cross of Christ that he became converted, and was a new man. Eight years have passed since then, and yet he stands a steady, faithful, business man and Christian worker."

At this point I could hardly restrain myself from saying, "Praise God for this;" and, in fact, I concluded I wouldn't restrain my feelings, even though I *was* in another church than my own. Now, friends, while it is a sad, sad fact that a man may in this world lose or forfeit his soul or self, for the things of this world, it is a glorious thought held out to all lost humanity, that Christ Jesus died to save sinners.

The figure of one who is lost through sin is a sad sight indeed; and if nature gave no remedy and no help to those who had gone down to darkness and death by folly and sin, even though it were sin of their own choosing, the moral universe would be a sad, sad thing for contemplation. Blest be the words that a loving Savior speaks to a lost and ruined world. "I am the light of the world. He that followeth me shall not walk in darkness, but shall have the light of life." Therefore be not downcast and discouraged, my brother, even though you have promised and pledged yourself, and have fallen; and even though you have fallen again and again, remember that He who died for us yet lives, and that when all the world have gone and given us up, when every last friend has turned from us in discouragement and disgust, yet those bleeding hands are held out still; and remember, that even though you are a sinner, it was such that he came into the world to save.

For whosoever will save his life shall lose it; but whosoever will lose his life for my sake, the same shall save it.—LUKE 9:24.

For God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life.—JOHN 3:16.

For the Son of man is come to save that which was lost.—MATT. 18:11.

Tobacco Column.

A STORE-KEEPER WHO WILL NOT SELL TOBACCO.

ALLOW me, as a brother in Christ, to express my pleasure in congratulating you on the healthful, moral, elevating influence of GLEANINGS in my family. I mean just what I say; I very much respect you and your assistants for the manly, Christian, outspoken, but kind tones of the GLEANINGS articles and comments, and prayerfully hope and trust you will go right on in the Master's service, doing all you can for him who has done so much for you and me. I hope some future day (if you think proper) to send you an article on the tobacco question, and give you my experience therein. Although a general store-keeper, I have fully decided to sell no more of that health-destroying, expensive, and filthy stuff. J. P. DONEY, SR.

May God bless you, friend D., for your kind words. For your encouragement I want to add, that in Medina there are almost a dozen groceries, and only one among the whole that will not sell tobacco. The young man who first took this stand in this matter is one of the bright new converts among our young Christians; and after he had carried on business for over a year without tobacco, he said he was willing to compare sales with any grocer in the town; so we have another verification of my old and well-tried text, "Seek ye first the kingdom of God and his righteousness, and all these things shall be added unto you."

I informed a friend of mine that you would give a smoker to any one who would stop using tobacco. He said if you would send him one he would stop; and if he ever used it again, he would pay you for the smoker. G. W. O'KELLEY, JR.

Harmony Grove, Jackson Co., Ga., Dec. 30, 1883.

Will you allow an outsider to drop a few lines in your valuable journal, which will come under the head of Tobacco Column? I shall be 21 years of age the 20th day of January, and have been chewing and smoking tobacco for 5 years, thinking all the while it looked eloquent and smart, and believing all the time it was injurious to my health, or, at least, older ones told me it was, and so I have taken a pledge not to chew or smoke any more tobacco.

Miles, Ky., Jan. 9, 1884. J. C. CLOYES.

AN UNEXPECTED TESTIMONY.

I was much surprised at receiving a Clark smoker through the mail, and later, a postal stating that you had sent it free, "no charge." I did not mean to even hint at such a thing in what I said in a former letter. Many thanks. But I can not imagine *why* you sent it. It made me think of the Tobacco Column. But neither any of my near relations nor myself touch tobacco. Father learned to use it when about eight years old, and was constant in its use until his sons were becoming "big boys" about him; then for their sakes he resolved to be its slave no longer, so he and four or five others, whom he induced to join him, pledged themselves to quit its use entirely for one year.

I was too young at that time to remember much about it; but I often heard mother tell about it afterward. Up to that time he had been a very stout healthy man; but during the first half of that year he became very irritable, lost his appetite, flesh, and strength, to a great degree. In short, he became so miserable that mother, fearing he could not live the year out, besought him to begin using tobacco again. He said, "Well; I will die, if that is to be the end." He did not die then; he slowly but surely regained even more than his former vigor of mind and body, and lived to complete fully his "threescore and ten years." He often declared he was more than repaid in own person for all the struggle cost him. But the kind Father permitted him also to see each of his four sons become firm anti-tobacco as well as anti-whisky men, and still the good work goes on, for his three oldest grandchildren (cousins to each other, and already rejoicing in their privilege of voting for next President), as well as some younger ones, are each following in the steps of their fathers — so far, at least, as whisky and tobacco are concerned. E. H. McCLYMONDS.

Kittanning, Armstrong Co., Pa., Jan. 11, 1884.

There, friends, I got the above good letter by accident. You see, our friend got a smoker some time ago, which he said did not work very well, and so I told the clerks to send him one of the latest improved new ones, and this brought out the above story.

A REMARKABLE TESTIMONY, FROM FRIEND ROGERS.

Dear Friend:—It seems curious, perhaps, for me to address in this way a person I have never seen; but I can not but feel, after reading GLEANINGS for years, that you are indeed a friend, in the fullest sense of the word, and I can not longer refrain from writing you my thanks for the aid I have received from your writings. I like the Home Papers; and your Tobacco Column may have been the indirect cause of my leaving off the use of tobacco. At any rate, I jeered at it at first, and thought it a foolish addition to the pages of GLEANINGS. What I think of it now, I leave you to judge after reading.

MY EXPERIENCE WITH TOBACCO.

I have read with interest all that has been said in the Tobacco Column; but, not wishing to parade private matters before your readers, I had thought best not to say any thing about my experience with tobacco. But the honorable reports from W. J. Endley and others who have tried to abandon the habit, and so far failed, have induced me to speak out, with the hope that what I can say will not only strengthen all in their good resolutions, but may encourage at least *one* struggling brother until he shall at last succeed in freeing himself from the chains which the habitual and long-continued use of tobacco inevitably fastens about us. I say chains, because I consider no person more thoroughly enslaved than the one addicted to the every-day use of tobacco. To the veteran smoker I need say nothing to substantiate this statement; but to the youth just indulging in his occasional cigar, who thinks it mere fancy, let me say, bitter experience in after-life will show you that it is a substantial fact. You may ask how I know. I will try to tell you.

I commenced smoking a cigar occasionally when I was 16 or 17 years of age. At that time I had no thought of ever using the pipe. In fact, the daily sight of my loved father smoking his short clay pipe, although apparently a comfort to him, made me resolve that I would never use it. But as I got further along with the habit, a clean pipe was first substituted for the cigar, and finally appetite got the best of me; and even before I was 20, none but the long-used, tobacco-stained pipe gave me comfort or satisfaction. My friends, it is with no little effort that I confess this; but it is the truth, and I am trying to tell the whole of it. As time passed on, and smoking hindered me at my work, the habit of chewing was easily acquired; and by this time my whole system was impregnated with the strength of tobacco. I soon began to feel some of its bad effects; and when I learned by my own experience that it was injurious, I concluded to leave off its use. I had always thought one could quit at any time; but a single trial convinced me of my error. I had used tobacco daily for years. It had obtained a strong hold on me. I tried repeatedly to leave it off, and as often went back to it after a few days. But one year ago to-day, Jan. 7, I thought, "I *will not* use any tobacco to-day." The next day I adhered to the same resolution. Another and another day followed without its use. There seemed to be some invisible power helping me. I began to feel that I should succeed this time, and, through the influence of GLEANINGS, the unspoken prayers of my wife, my own desire to set a better example before our three boys, and the help of that invisible Power, I did succeed, and am, to-day, thank God, a comparatively free man. I say comparatively, because I have not wholly got away from it yet. At times the old appetite comes upon me so strongly as to require a strong effort to resist it; but I have resisted it so far, and hope to continue to do so in future.

After an experience of about 18 years in the use of tobacco, I want to say to the young readers of GLEANINGS who may think as I did, that they can leave off at any time, never touch the first cigar. To those who have acquired the accursed habit, and now wish to abandon it, let me say, first think the matter over, and resolve firmly that you will leave it off. Do not wait until you use what tobacco you now have on hand, thinking you will then stop, for you will almost invariably buy more after a few days; but resolve that you will stop now. And having once formed this resolution, stand firm, and keep it with a will, not forgetting to ask in full faith for aid through Him who said, "Whatsoever ye shall ask in prayer believing, ye shall receive."

On page 793, last volume, Mr. Root, you say: "If the use of tobacco be indeed an evil," etc. Now, the best physicians pronounce it injurious to health. Every candid, conscientious man who has used it will tell you it is an injury in many ways. As I look at it, whatever we do knowingly that injures our bodies is sin. As such, I hope you will continue the fight against it, and may unbounded success everywhere attend your effort.

For fear you may think otherwise after reading what I have written, I will say that, while I want to be a good man, I am not a professing Christian.

Again I thank you, friend Root; and may you long be spared to continue in the good work.

L. M. ROGERS.

Oneida Valley, N. Y., Jan. 7, 1884.

Thank God, friend R., for the news you bring of one more soul redeemed from the bondage of tobacco. And now, dear brother, let me beg of you to push right on and unite yourself with some body of Christians near you. Do not, I implore you, stand still, and by so doing possibly block the way for somebody else who may be just about to enter the gates of the kingdom. Stand up before men, and let your light shine, and tell the story you have told us, and help others to push forward.

Blasted Hopes,

Or Letters from Those Who have Made Bee Culture a Failure.

I MUST confess, friends, that perhaps I have been a little careless in not looking a little sharper for reports for this department; and since we have been censured so severely by several of the friends for presenting only the bright side, here goes for Blasted Hopes.

I send you a little of my experience with my bees. I think that it may do for your journal, in Blasted Hopes, as I like to see all the departments kept up; but I think I shall try the black bee again before I quit. I shall keep the Italians for the coming summer again.

Well, in 1881 I bought one colony from Mr. A. Newman, of Chicago, in July, and a good one it was, and nice bees they were, and good workers; they increased to two, and gave 50 lbs. of honey; they wintered all right. In the spring of 1882 I bought a queen and 3-frame nucleus from Mr. W. P. Henderson, of Murfreesboro, Tenn. They came all right. Well, the queen soon had the hive full; they commenced to swarm, and they would swarm, and the young swarms would swarm, and all of her breed would swarm, all summer. Sometimes they would swarm when the hive would be only half full. By fall I had 15 colonies. Next winter, about ½ of them died. I ought to say I got about 50 lbs. of honey that summer from the Newman stock. Well, last spring I gave them the best care I could, after Doolittle's plan. I got no swarms nor a pound of honey. I made two new swarms from the whole, but I think they will die before spring, as they have not enough honey to winter on.

HUGH WILLIAMS.

Racine, Wis., Jan. 28, 1884.

Now, friend W., I thought the way you started out you were going to give us a tiptop "Blasted Hoper;" but come to sum it all up, it might almost do for Reports Encouraging. Why didn't you stick to your "Newman" stock, and let well enough alone? Perhaps the last queen was part *Holy-Land*.

I commenced the spring of 1883 with 18 stands of black bees—10 good ones, and 8 weak ones. The spring was wet and cold; no honey from fruit-blossom, and, in fact, no honey from any thing, so the black-jacks made for the saloons and wholesale grog-shops, and died by thousands inside of the windows; and the consequence was, Roop's bees petered out until there was not a handful to the hive left when basswood came out. Well I came out with 46 swarms, and 300 lbs. of comb honey in the fall. If I have any seed left, in the spring, I shall try it again, as I am determined to make bee-keeping a success, but shall Italianize in the spring.

M. S. ROOP.

Council Bluffs, Iowa, Feb. 11, 1884.

And so, friend R., it seems that saloons and wholesale grog-shops are as bad on bee-keeping as they are on Christianity, are they not? If we were going to have that state of affairs every year, I believe I should take the bees and move off.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, FEB. 15, 1884.

We be brethren.—GEN. 13:8.

SEVERAL articles with illustrations in regard to reversible frames are in type, but no room for them in this issue. Look out for them next time.

BEESWAX seems to stand still a little just now, and for immediate shipments we can furnish wax, common run, for 38 cents. We still pay 33 cents cash, 35 trade.

WE are out of the July number for 1883, and will pay 5 cents for them till further notice. I don't dare to offer 10 cents just yet, because we got such a lot of them when we offered 10 cents for certain numbers a few weeks ago.

THE FLOOD.

MANY of the trains are stopped by loss of bridges, and therefore please don't be impatient if some of your orders are not filled as promptly as usual. The goods are loaded on a car, ready to go as soon as trains run.

ALSIKE CLOVER SEED.

I AM sorry, friends, but I can not help it. Alsike has commenced already to go up, and is now worth $12.00 per bushel; $6.50 per half-bushel; $4.00 per peck, or 25 cents per pound. If any one has any for sale, at a price not to exceed $10.50, I should be glad if he would send a sample, and tell how much he has.

REPORTS in regard to wintering are at present very favorable. Severe weather in December and January seems to have done no particular harm. The warm, pleasant weather during the month of February seems to be quite universal; and in the Southern States, fruit-trees are in bloom, and honey is coming in plentifully.

CAN NOT VERY THIN FDN. BE USED FOR WIRED FRAMES?

THIS is a question that is coming before us repeatedly, and we have had a sufficient number of reports to settle the matter, I think. Of course, if the fdn. is made 8 or 10 square feet to the pound, bees will not have so much wax to build the comb; but as fdn. is now pretty high, and the thin will answer equally well to get all worker combs after there is no danger of the sagging of the wires, there is no objection that I know of, where one wishes to economize in that way. We can now make L. sheets for wired frames without much trouble, as thin as 8 sheets to the pound. Where the honey-flow was quite moderate, perhaps the bees might be more likely to bite the fdn. away around the wires, than with that which runs 4 or 5 sheets to the pound.

COMB HONEY IN CORN SYRUP.

OUR thanks are due to friend Aspinwall, of the *Bee-Keepers' Magazine*, for a report of the E. N. Y. B. K. A., over two yards long. The report is quite valuable, but altogether too long for our pages. George House makes some very good remarks in regard to the adulteration of comb honey. Mr. Aspinwall follows up with a valuable paper. He tells that Thurber & Co., of New York, are putting up comb honey in glass jars with a label on it, stating that the liquid surrounding the honey in the comb is partly corn syrup, and is put in to prevent granulation. Now, if the corn syrup is nice, without any sulphuric acid about it (and I guess the Thurbers are equal to the task of furnishing pure and wholesome foods of almost any description), I do not see what is the harm, if people want to buy it so. Comb honey in glass jars must have something surrounding it that won't candy, if it is to be a success.

FEEDING IN FEBRUARY.

ONLY one colony of bees lost so far, up to to-day, Feb. 13. Many of them are full of brood, and quite a number have to be fed. As severe weather is liable to occur at any moment, we have decided to give them one-pound cakes of the old-style bee-candy, described in the A B C book. I have never fed any thing better or safer for winter feeding. We run it into the little square tins which we use for making one-pound maple-sugar cakes, and place this cake under the Hill device — over the cluster. I should not dare to commence feeding maple sugar so early. Another thing, the candy made of granulated sugar costs little if any more than the maple-sugar cakes, and it is certainly a great deal purer.

WITH the large increase of the subscription list to GLEANINGS, comes a corresponding amount of matter sent in for publication. The quantity of manuscripts ahead is now so great that we can use but a small part of it; in fact, a great pile of long articles have been waiting not only weeks but months for me to get time to read them. Worse than all, quite a number of the friends insist on my giving space to matter that is, in my opinion, of only secondary importance. They urge that I have closed the subject at a point where it does them injustice. As the opposite party often feels the same way about it, there will be really no stopping-place; and so in default of being able to find a good place to stop, I have decided to stop in a bad place. In one case I am threatened if I do not allow the writer space to set himself right, before the people. Now, while I am anxious to live at peace with all men, if there has got to be a free fight to decide what shall or shall not occupy the pages of GLEANINGS, let the fight come; I am going to do what I think best and wisest for all concerned, not even forgetting our juvenile prattlers; and if I get some bruises in the fray, I will try to think I got them in what I thought to be a good cause.

CONVENTION NOTICES.

The Western Bee-Keepers' Association will hold the spring meeting, April 24, 1884, at Independence, Mo.
C. M. CRANDALL, *Sec'y.*

The North-eastern Michigan Bee-keepers' Association will hold its second annual meeting, Wednesday, March 5, 1884, at the Court-house in Lapeer. Hotel rates reduced to $1.00 per day.
W. Z. HUTCHINSON, Sec'y.

The regular annual meeting of the Eastern Iowa and Western Illinois Bee-Keepers' Association will be held at Moore's Hall, No. 110 East Third Street, Davenport, Iowa, on Thursday, Friday, and Saturday, February 21, 22, and 23, 1884.
J. J. NAGLE, *Secretary.*

CIRCULARS RECEIVED.

W. S. Cauthen, Pleasant Hill, S. C., sends us his price list of Italian queens and bees for 1884.

Howe & Son, Council Bluffs, Iowa, have sent us an 8-page list of hives, etc.; pages 6x3, map fold.

Henry Drum, Adelphia, Ohio, sends out a 14-page list of apiarian supplies. It is very nicely gotten up.

C. M. Goodspeed, Thorn Hill, N. Y., has mailed us a 4-page list of bees, queens, fowls, and small fruits.

We have just printed for Jas. M. Hyne, Stewartsville, Ind., his price list of things pertaining to the apiary.

E. H. Cook, Andover, Conn., sends out a circular containing prices of Italian bees and queens, rubber stamps, etc.

The Model Bee-hive Co., of Philadelphia, Pa., have sent us a postal circular of apiarian wares manufactured by them.

Oliver Foster, Mt. Vernon, Iowa, has just received from our press his price list of queens, bees, and molded fdn. Send for one.

We have just printed for Smith & Smith, of Kenton, O., their price list of bee implements. It is GLEANINGS size, and the "boys" consider it the best, in some respects, of any similar job they have done this season.

M. Richardson & Son, Port Colborne, Ont., have sent us a 16-page circular of things pertaining to apiculture. The book is 6x9, and reflects considerable credit on the printers, as compared with the average circular we receive.

A. H. Newman, Chicago, Ill., is sending out his regular annual illustrated catalogue, 36 pages. While the outward appearance of the list is much the same as last year, we notice that friend Newman has added quite a number of novelties.

Henry Alley, Wenham, Mass., has sent as a prospectus of his "Handy Book." Besides numerous testimonials, the pamphlet contains several illustrations showing the outline of his manner of raising queen-cells. It will pay you to send for this little prospectus, which is, we believe, mailed free.

F. G. & H. W. Bass, Orford, N. H., send us a circular, illustrating and explaining their circular beehive. The idea is to have a movable-comb hive as compact as an old-fashioned log gum. It is novel and ingenious, and no doubt bees may be managed so as to do almost if not quite as well as in any hive. But without ever having seen such in practical operation, I should feel as if it were twisting the bees a little, as well as their owner, to make them conform to it.

F. Koester, Bockenheim, Germany, has sent us his treatise on bee culture, containing 66 pages, 6½x4. The ordinary German letters are not used in this book, but Roman is used instead. The whole work displays that laborious attention to details that characterizes our German friends. The printing is extremely good. In the back part of the book there are four pages of lithographic drawings, giving sectional views of the different articles made. The price is one mark — about 25 cents.

Honey. ✠ Honey.

Great quantities of it, and great quantities of choicest fruit from new Cuthbert raspberry. I have really found a good thing at last. It is the largest and best red raspberry grown: so say those who have tested it, and so say I. Will stand heat or cold, wet or drouth. Have tested it now for two years, and am really surprised at the quantities of honey gathered from the blossoms; and that, too, when but little is gathered from any other source: bees continue to work on them four weeks.

I make more money from the crop of berries alone, than from any crop grown on the farm. A limited quantity of fine plants for sale; 1½ doz. for $1.00 by mail, or $3 50 per 100 by rail.

4-6d DR. B. F. KINNEY, Bloomsburg, Penn.

FOR SALE.

50 SWARMS ITALIAN BEES in Simplicity and improved American hives.

4-5d S. ALBRIGHT, Monroeville, O.

HIVES. 1884. HIVES.

SEND for new price list of supplies for the apiary. Hives by the 100 in flat cheap, and best quality. Also rakes and cradles. White's pat. wire brace rake, best and most durable. Send for price by the dozen.

A. D. BENHAM,

4tfd-b OLIVET, : EATON CO., : MICH.

WANTED!

Orders for Italian queens and comb foundation. Italian queens, untested, before June 1, $1.50; after June 1, $1.00. Italian queens, tested, before June 1, $2.50; after June 1, $2.00. 10% discount on orders of 5 or more to one address. Printed directions for introducing queens sent with each queen.

Comb fdn. made of pure beeswax, 1 lb. to 10, 60c. per lb.; 10 to 50, 55c.; 50 to 100, 53c. For thin fdn. for section boxes, add 5c. to above prices.

We guarantee safe arrival of queens by mail, and fdn. by express or freight, to all parts of U. S. or Canada. Cash must accompany all orders. Send money by P. O. order, registered letter, or draft. Address all orders to

KENNEDY & LEAHY,

4-12d b Box 11, HIGGINSVILLE, LAFAYETTE CO., MO.

WANTED.—To work for a first-class man in an apiary, on liberal terms. Address

4 6d A. L. MILLER, West Toledo, O.

SLICED SECTIONS!

A great saving of labor and lumber. "*Every bit as nice as sawed ones.*" (See GLEANINGS of Sept. 15). For 6 cents in stamps we will send two sample sections, with prices, by mail. Catalogue of berry-crates and baskets free on application. Address

BERLIN FRUIT-BOX CO.,

4btfd Berlin Heights, Ohio.

RECENT ADDITIONS TO THE COUNTER STORE.

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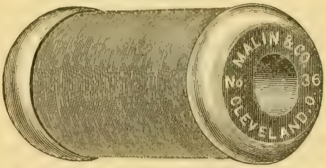

3	TINNED WIRE, as per illustration above	28	2 50

No 30, on spools. The above are very convenient for wiring frames on the plan several times given in GLEANINGS, by hooking it on to wire nails with a hooked point. No. 30 tinned wire 20c per lb.; in coils of 5 to 10 lbs., 16c. No. 36, ½ more.

FIFTEEN-CENT COUNTER.

14	PAN OR BASIN, *heavy tin, re-tinned*	1 25	12 00

Holds 4 qts., 3½ inches deep, 10¼ in. across.

TWENTY-CENT COUNTER.

4	FILE ROUND, 9 inch	1 75	16 00
5	FILE, CANT, for Circular Saws, 6 in...	1 40	13 50
	DISH PAN, pieced, 10-qt	1 85	17 00

TWENTY-FIVE CENT COUNTER.

10	BALANCE, SPRING, 48-lb., Chattillon's	2 10	20 00
7	FILE, CANT, lightning, best for circular saws, 10 inch, see page 15.......	2 25	21 00

THIRTY-FIVE CENT COUNTER.

5	BIT, carpenter's, 12-16................	3 00	25 00

SEVENTY-FIVE CENT COUNTER.

18	NAIL-PULLER, "PELICAN".............	6 50	60 00

A splendid tool for opening boxes.

FOR $2.50.

TELESCOPE, ACHROMATIC; 16 inches when drawn out, 6 inches closed. Will give a glimpse of the rings of Saturn when fixed on a *solid rest.* Postage 10c. Ten for $22.50; one hundred, $200.00.

A. I. ROOT, Medina, O.

For Sale Cheap!

FARM OF 160 ACRES,

Good land, 80 acres under cultivation, the rest growing timber (oak), fenced for stock; good stock farm, two wells on the place, one soft and the other hard water. There is a Halliday windmill near the house, for pumping water for stock and house use. And a Challenge windmill (8-horse-power) and feed-mill for grinding feed for stock. A large amount of custom work is done in windy weather, when but little else can be done. The mill is entirely new, and cost (including building, which is 2-story) about $900. There is a good new house, finished inside and out, main part 16x26, 2 story, wing 20x24, and a good stone cellar under it. It is a good farm house, and is well finished; cost nearly $1000. Good new barn, 30x44. Cattle barn, 12x56. Granary, 12x32. Honey-house, 12x16; also wood-shed, wagon-shed, corn-crib, hog-pens, etc. All the above for only $3000—one-third down, remainder on time, to suit purchaser. Interest at 7%. Will sell all the farm machinery and stock, if desired, and our apiary of about 50 colonies, and all fixtures, very cheap.

☞ For further particulars, address

J. A. OSBUN & SON,
4d *SPRING BLUFF, Adams Co., WIS.*

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FOR OUR FINE DESCRIPTIVE PRICE LIST

—OF—

Chaff and Simplicity Bee-Hives

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Apiarian Supplies in General.

Good work, good material, low prices, and *satisfied customers.* Try us.

S. C. & J. P. WATTS,
4 b tf. d **Murray, Clearfield Co., Pa.**

100,000 Sections!

First-class Simplicity sections, made of dry white basswood. Orders in by Mar. 1, 5% discount.

C. A. GRAVES, Birmingham, Erie Co., O.

Reference—Editor GLEANINGS. 4 5d

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COMB FOUNDATION MILLS.

Send for samples and reduced price list.

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40 COLONIES Italians and hybrids, in two-story Simplicity hives, at $5.00 each, if all taken at one order; or 10 hives to one order, $6 00 each. Delivered on cars here.

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A large lot of Black Bees for sale cheap, all in good condition. Address

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PRICE LIST OF ITALIAN QUEENS & BEES,

And Bee Keeping Fixtures, sent free to any address.

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2-3-4d **Waco, McLennan Co., Texas.**

Dadant's Foundation Factory, wholesale. See advertisement in another column. 3btfd

FOR SALE!

QUEENS, BEES, COLONIES, COMB FOUNDATION, BROOD AND WIDE FRAMES, SHIPPING-CRATES, HIVES, HONEY-EXTRACTORS, HONEY-KNIVES, BINGHAM SMOKERS, PRIZE HONEY-BOXES, AND EVERYTHING A LIVE BEE-KEEPER NEEDS.

☞ Send us an order, and we will please you, we know. Price list sent on application.

F. A. SALISBURY & Co.,
GEDDES, ONONDAGA CO., N. Y.
2tfd-b

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FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Geo. W. House, Fayetteville, N. Y., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd. Hamilton, Hancock Co., Ill.

FOR SALE!

As early as wanted in the spring, a large number of swarms of

ITALIAN AND HYBRID BEES.

Bees and Queens in their season cheap. After July 1st, almost given away. Address,

1tfd-b A. W. CHENEY, Kanawha Falls, W. Va.

FRUIT AND HONEY.

20 BLACK TARTARIAN CHERRY-TREES BY Express for $1. *Well packed.* These are from two to four feet. Can send 20 small ones by mail postpaid for $1.

CHAS. KINGSLEY,
11tfd-b Greeneville, Greene Co., Tenn.

WE still make one-piece sections a specialty, and our patrons tell us our sections are the best in the market. We make four styles, and all sizes. Send stamp for sample. Pound size, $4.50 per M. Our combined rack and case with movable side is just what you want. It is simple, solid, and saves lots of time. Samples in flat, 25c.; set up, 40c. Circular free. Mark this adv., as it will appear but once.

B. WALKER & CO.,
4d Capac, Mich.

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Can be had by sending your address to

JAMES HEDDON, Dowagiac, Mich.

☞ State if you had his for 1883. 3t bfd

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STEAM BEE-HIVE FACTORY
OF THE WEST.

Hives and sections of all kinds. Italian bees, colony or nuclei; comb foundation, smokers, extractors. Best and cheapest saw mandrel made; Babbitt boxes all complete, 20 inches long, $6.00. All supplies very low for cash.
E. Y. PERKINS,
3-5-7-9-11-13d Jefferson, Greene Co., Iowa.

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Simple, cheap, and practical. This hive does away with all frames for comb honey; and as it is in tiers, all the heat of the hive is confined just above the brood-chamber. Can use it with or without separators. Send $1.50 for a sample hive, and write for prices in the flat. Manufactured by
T. GRAHAM ASHMEAD,
3d Williamson, Wayne Co., N. Y.

CHEAP BOXES.

One-Piece and 4-piece boxes, 4¼x4¼ in.......... $4 25
" " " " " 5¼x6¼ in.......... 4 75
Send 5 cents for sample. Hives at reduced rates.
Price list free. J. P. McGREGOR,
5-7d Freeland, Saginaw Co., Mich.

BEES FOR SALE.

I have 30 or 40 hives of bees, mostly hybrids, which I would like to dispose of. They are in Simplicity hives. Any one wanting bees can address me.
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To nail, or dovetailed, 4¼x4¼.......... $4 50
Other sizes, larger, to 6x6.......... 5 00
HIVES MADE TO ORDER.
Send for Price List. P. NEWTON & CO.,
5-7-9d Earlville, N. Y.

J. Y. CALDWELL,
Cambridge, Illinois.

PURE HONEY-COMB FOUNDATION A SPECIALTY.

Also sections, smokers, etc. New price list now ready. Sent free to all.

☞ 35 cents cash paid for good beeswax. 5d

I HAVE 120 swarms of bees, and a 6-horse-power engine to sell. All in good order. HENRY PALMER, Hart, Mich. 5-7d

DOVETAILED ONE-PIECE SECTIONS, $4.50 per 1000. Other goods proportionately low. E. S. MILLER & BRO., Dryden, Lapeer Co., Mich. 5-7-9d

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$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2,00 per year

Those whose names appear below agree to furnish Italian queens for $1,00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 1tf
*Paul L. Viallon, Bayou Goula, La. 1tfd
*S. F. Newman, Norwalk, Huron Co., O. 1tfd
*Wm. Ballantine, Sago, Musk. Co., O. 1tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 2tfd
*Jas. A. Nelson, L. box 83, Wyandott, Wy. Co., Kan. 6-5
*James P. Sterritt, Sheakleyville, Mercer Co., Pa. 10-3
*Thos. H. Price, New Providence, Mont. Co., Tenn. 5-15
*D. A. McCord, Oxford, Butler Co., Ohio. 5-15
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 1tfd
L. E. Mercer. Lenox, Taylor Co., Iowa. 4-3
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1

Wants.

WANTED.—Man to take management of 100 stocks bees. State wages and qualifications.
5d DR. THOM, Streetsville, Ont., Can.

WANTED.—To work for a first-class man in an apiary, on liberal terms. Address
4 6d A. L. MILLER, West Toledo, O.

WANTED.—Help in the bee business.
4-5 R. WILKIN, San Buenaventura, Cal.

WANTED.—A good hand to take charge of an apiary of 120 colonies, for a widow lady. Apiary is nicely situated on a farm of 20 acres. Bees are Italians and hybrids, in splendid condition. A fine opportunity. Address, for particulars,
R. D. GIER, Box 4, Franklin, St. Mary's Parish, La.

WANTED.—An honest and capable young man to take charge of my apiary of about 100 hives. I use the L. frame, but not the hive.
W. H. MORGAN, Sheppardtown, Leflore Co., Miss.

Nuclei! Nuclei!

Bright Italians, gentle and beautiful. Will send any number of frames desired in nucleus. Try my half-colonies. Better than a new swarm. Terms reasonable. Send for circular, and don't forget it.
DR. A. P. COULTER,
5-7-9-12d. Lock Box 231, Marissa, St. Clair Co., Ill.

Honey Column.

CITY MARKETS.

CHICAGO.—*Honey.*—Comb honey is being taken in a small way. Prices are without change of special note for the best grades; off grades are slow at almost any price. Extracted honey, 7 to 10c. *Beeswax* scarce at 30 to 36c. per lb.

R. A. BURNETT,
Feb. 21, 1884. 161 South Water St., Chicago, Ill.

CLEVELAND. — *Honey.* — Continues a little dull; sales are small, not frequent; prices, however, unchanged. Best No. 1, white 1-lb. sections, sell at 18@19c; 2 lbs., 16@17c. Glassed, 2c less. Second quality is dull at 14@15c. Extracted, no sale. *Beeswax* scarce at 30c.

A. C. KENDEL,
Feb. 22, 1884. 115 Ontario St., Cleveland, O.

ST. LOUIS.—*Honey.*—Our market continues dull for extracted honey. No demand in bbls.: quoted 6 to 7c. Nominal, in small cans. Retail, 10c. Comb honey, only a retail demand, 13 to 16c. White clover wanted; would bring 18 to 20 cts., in good order. *Beeswax* continues scarce. Very little arriving; 35 to 37½c. Look for higher prices.

W. T. ANDERSON & CO.,
St. Louis, Mo., Feb. 23, 1884. 104 N. Third St.

KANSAS CITY.—*Honey.*—Choice white 2-lb. sections still scarce, and wanted at 17@18c; 1-lb. sections in fair supply at about same prices. Dark comb very slow at any price. Extracted, dark, in light supply, and fair demand at 8@8½c. White, rather slow. *Beeswax*—None in this market.

JEROME TWICHELL,
Feb. 21, 1884. Honey Depot, 514 Walnut St., K. C.

BOSTON.—*Honey.*—No change in price of honey. Demand light; 1-lb. sections selling 18@20c; 2 lbs., 16@18c. Extracted, 9@11c. *Beeswax*, 35c.

BLAKE & RIPLEY,
Feb. 23, 1884. 57 Chatham St., Boston, Mass.

I have one barrel of nice white-clover honey in alcohol barrel, iron hooped, and waxed, for which I will take 9 cts. per lb., delivered on cars at Elizabethtown, Ind. J. W. MORGAN.
Burnsville, Bartholomew Co., Ind.

BeeswaX

CRUDE OR REFINED, ALWAYS ON HAND, AND ORDERS PROMPTLY ATTENDED TO.

RICHARD MERKLE,
Wax Bleacher & Refiner, No. 700 North 2d Street,
ST. LOUIS, MO. 5d

FOR SALE.

A splendid grain farm, containing 118 acres—100 improved, and in high state of cultivation; good house, large barn, good timber.
Also 50 colonies of Italian bees, in Simplicity hives. Must be sold. Want to go west. Address

P. F. RHODES,
5d **New Castle, Henry Co., Ind.**

WANTED.—A smart active boy from 12 to 16 years of age, to learn bee-keeping and do light work, such as gardening.
A. A. FRADENBURG, Port Washington, O.

PEA-VINE CLOVER SEED.

WE have on hand, ready for immediate shipment, about 20 bushels of pea-vine clover seed. Price $8.00 per bushel; $4.50 per ½ bushel; $2.50 per peck, or 20 cents per lb.; 18 c. per lb. additional, by mail.
A. I. ROOT, Medina, O.

J. S. TADLOCK,
—BREEDER OF—
Italian, Cyprian, and Syrian
BEES,
Queens, Nuclei, and Full Colonies.

Manufacturer of Bee-Hives, Comb Foundation, and dealer in bee-keepers' supplies.
5tfd P. O. Box 169, LULING, TEXAS.

Strawberry Plants, $1.00 per 1000.

The three best hardy berries—Col. Cheney (early); Chas. Downing (medium); Kentucky (late). Wilson and Crescent, $1.50 per 1000. 1 doz. of any of the above free by mail, 20c. Send money with order.
Address A. FIDDES,
5-6-7d Centralia, Marion Co., Ill.

CANADA ONLY!

A. I. Root's Simplicity Hives at Root's Prices.

Send for circular. WILL ELLIS,
5d St. Davids, Ont., Canada.

ONE SIX-HORSE-POWER PORTABLE BOILER for sale cheap. Address
5d. R. ECKERMANN & WILL, Syracuse, N.Y.

HOW TO START IN BEES

And make 'em pay. See OLIVER FOSTER'S circular on bees, queens, and fdn. molds.
5tfd b MT. VERNON, Linn Co., IOWA.

TEXAS LILIES!

Three beautiful Texas lilies, very hardy, by mail 25 cts. Or drop us a postal-card order and they will be sent C. O. D., to be returned if you are not pleased. We know you will be. WM. L. STILES,
5. Austin, Texas.

BEES FOR SALE.

50 SWARMS ITALIANS

In Sayles Simplicity hives. Per swarm.......$10 00
Order now. Shipped as soon as season is favorable.

SWEET-CLOVER SEED.

Per lb., 17c; by mail..............................35c
5tfdb **J. A. GREEN, Dayton, Ill.**

One-Piece Sections a Specialty!

See adv. in GLEANINGS of Feb. 15th.
5 B. WALKER & CO., CAPAC, MICH.

CLEOME, OR ROCKY-MOUNTAIN BEE-PLANT SEED, Fresh, can be had of C. A. Flory, Hygiene, Boulder Co., Colorado. Sent by mail for 20 cts. single oz., or two oz. for 30 cts. It is the best honey-plant in the world; after first sowing, seeds the ground itself. Blooms from June to frost. 5-6d

FOR SALE!

Barnes combined Foot-Power Circular and Scroll Saw. Also electrotype plates of smokers, sections, extractors, queens, and many other plates.
Address B. S. UNDERHILL,
5d No. 12 Dake St., Rochester, N. Y.

PLYMOUTH ROCKS AND BROWN LEGHORNS. Eggs $1.50 per sitting. Address T. GRAHAM ASHMEAD, Williamson, Wayne Co., N. Y.
3-5-7d

DADANT'S FOUNDATION FACTORY, WHOLESALE. See advertisement in another column. 3btfd

GLEANINGS IN BEE CULTURE.

DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.

Vol. XII. **MAR. 1, 1884.** **No. 5.**

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Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

NOTES FROM THE BANNER APIARY.

NO. 52.

BLASTED HOPES.

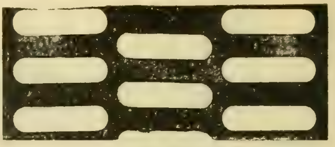
I HAVE just "counted up," and there are twenty-three persons living within two miles of my place who have invested in bees since I started in the business, the majority of them being induced to embark in the speculation from witnessing my own success. All except two were farmers, and many of them went into the business quite extensively, bought bees, and transferred them to movable-comb hives, Italianized them, bought an extractor, smoker, honey-knife, fdn , sections, etc., and of all these twenty-three neighbors who thus thought to either make money, or to "raise honey enough for their own use," only two now own bees—one has four colonies, the other one—and the only one who ever made any clear profit at the business has now dropped both bee-keeping and farming, and gone to the city as a book-keeper, while the majority expended enough money, to say nothing of the time, to have bought from two to ten times as much honey as they ever obtained. In speaking of being obliged to go "hawking" our honey about in order to sell it, I did not exactly mean that we were obliged to go upon the streets, or to peddle from house to house, but rather from store to store, or from dealer to dealer, and this isn't the worst of it; *we can not always effect a sale, even at the wholesale market price.* With almost every other "raw" imperishable product, we can load up and drive to town and "sell out" at the market price.

QUEEN-EXCLUDING HONEY-BOARDS.

When I adopted the Langstroth hives, and turned my attention to the production of comb honey, I used the Heddon skeleton or slat honey-board between the brood-nest and the surplus department. This honey-board deters the bees from extending small pieces of comb upward from the brood-combs, and connecting them with the lower bars of the section boxes; it also discourages, but does not always prevent, the queen from leaving the brood department of the hives. In old colonies having a full complement of brood-combs, only in one or two instances did the queen enter the surplus department, and then only slight damage was done; but when prime swarms were given access to the surplus department at the time of hiving, the queen almost invariably caused much trouble by going at once to the honey-boxes and filling them with eggs, while the frames below would be filled with honey. To remedy the difficulty, I tacked narrow strips of tin to the bottoms of the slats composing the skeleton honey-boards, allowing them to project over sufficiently to reduce the spaces to the merest trifle less than 5-32 of an inch. To keep the slats exactly in position, three strips of tin were tacked crosswise of them. Upon trial, the queens could not pass through these honey-boards (I caught a queen and forced her into one of the spaces, and she could not extricate herself), while quite as much honey was placed in the sections as before. Afterward, in making honey-boards, the slats were made ⅝ wide, and placed the proper distance apart; and, when finished, the boards were painted. To give it a trial, I ordered enough zinc to make honey-boards for ten hives. The most serious objection to the zinc is its cost. With me, no queens have passed through it, and I have reduced the size of the brood-nest until the frames were so full of brood that it did seem as though there was not more than one-fourth of a pound of honey in each frame. The zinc is inclined to sag in the middle, and thus reduce the space in the center to *less than bee space*, when the bees glue them down; and when they are removed, as J. B. Colton says, "they get kinked some." A wooden honey-board is *always straight*, which keeps the spaces perfect, while it is more easily removed than a zinc honey-board, which will bend when taken off, unless it is first pried loose all around, and even *then* if stuck fast in the middle. I think the point made by J. O. Pearce, on page 10, in regard to the queen being less apt to pass through a wooden honey-board than through a zinc one is well taken, and I am at a loss to see why you, friend Root, should say that you "had no faith in wooden honey-boards for retaining queens, and not much for keeping out drones either." I used about 50 of these wooden queen-excluding honey-boards last season, and I *prefer* them to the zinc. As J. B. Colton says, when a queen-excluding honey-board is employed, "Your combs below will have no honey in them, as the queen completely monopolizes them, and the honey is shoved up stairs." W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

Friend H., the case you bring forward, of your neighbors who have abandoned bee-keeping, is indeed something to be looked at seriously. And since you suggest it, I find it has been a good deal so in my own county. Perhaps as many as you have mentioned have commenced bee-keeping around here. After a year or two, a few of them raised some pretty large crops of honey, disposed of it to good advantage, but as time passed, most of them changed around into something else, or went back to farming, and let their apiaries run down through neglect. Our neighbor Shane is almost the only one who is keeping abreast of the times, and making it a paying business year after year. Many of them are a class of people who would neglect almost any business, and have gone into other things since they dropped bees, and had about the same experience. Perhaps I should mention, that quite a number of the farmers living near here have turned their attention to selling bees to me instead of producing honey, and I believe they have done pretty fairly. Our neighbor Rice is one of these.—In regard to the honey-boards, I have had little faith in any sort of a wooden arrangement for restraining queens, because we tried it so many times at the time we were all excited about fertilization in confinement. A great many of us imagined we had succeeded; but careful watching showed that the virgin queens went through almost as small a place as worker-bees; and late reports which have appeared in GLEANINGS indicate that queens get through the Jones perforated zinc as well. I was greatly interested in the words you use in your report above; where you say, in adjusting the tin strips, you made a space "the merest trifle less than 5-32 of an inch." Now, friends, I have had an idea that worker-bees can get through a smaller space than Mr. Jones makes in his perforated zinc, and to test it I have had made 1000 square feet of perforated zinc with meshes in like the cut below. In fact, this cut is an imprint of a bit of the zinc itself:



PERFORATED ZINC, WITH SMALLER PERFORATIONS.

Worker bees can get through this; but the only trouble I anticipate is, it will scrape off the pollen worse than the Jones zinc. But if we can not use it in restraining queens and drones, I shall use it for wax-extractors. I am glad to be able to say, we can furnish it to you, cut into sheets of any size, for 15 cts. per square foot; or for whole sheets, 3x7 or 3x8 feet, as you choose, at a cost of $2.50, and $2.85 per sheet respectively. I hope somebody whose bees are now bringing in pollen will make a test of it at once.

DRONE-TRAPS AND QUEEN-GUARDS.

SOME OF FRIEND ALLEY'S INVENTIONS.

MR. LANGSTROTH has lately called our attention to the usefulness of some kind of a bee-guard which may be placed at the entrance of the hive to prevent the exit of the queen in swarming. My profession being such that I must leave my bees to their own sweet will on those pleasant Sabbaths when they are so inclined to swarm, and my interests being called out toward any thing which will diminish the interference of bee-keeping with church attendance, I have taken a practical interest in any device which will control swarming. Of course, any guard which may be placed at the entrance of the hive to prevent the queen from leaving will also prevent the drones from leaving. Such a device must be founded on the fact that a 5-32 space will admit a worker-bee, but will hinder a queen or drone.

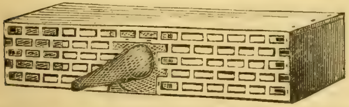
D. A. Jones's perforated zinc comes into most happy use to construct such a queen and drone guard. There can be no question but that a guard or a trap placed at the entrance of the hive, which will give the workers free exit and admission, and yet which will stop the queen from leaving, and will catch every drone in the hive, would be a great convenience in a variety of ways. Such a device, to be practical, must not hinder the work of honey-gathering, nor must it interfere with the ventilation of the hive, for it must be used in the hottest weather. I have sent and obtained two of these bee-guards, or traps, of two different makers, and I wish to explain each and mention some of the advantages which may be derived from their use. The first that I sent for was the one made by A. I. Root, after the general pattern of that made by D. A. Jones, its originator. It is simply a little box made of perforated zinc, 9½ inches long, and ⅜ of an inch high and wide. It has no bottom and no back side, but only a top and front side. The zinc of which it is made is perforated with oblong slits about ½ inch long and just 5-32 wide. There is a row of slits, and then a row of solid zinc, furnishing two rows of perforations in the front of the box, and two rows on the top, through which the workers can pass in and out. This zinc guard is set up against the entrance; and while the workers can go in and out through the perforations, the queen can not get out, neither can the drones. Now it seems to me, a guard made on this principle has some uses, and it also has some defects. It could easily be slipped over the entrance after the drones are on the wing, and compel the luckless lubbers to cluster on the alighting-board outside to await execution. By putting it on, day after day, after the drones have mostly come out of the hive, they can be gradually exterminated from any particular hive, by preventing their entrance again. And after the drones have been thus exterminated from a hive, this guard could be put on to catch the queen when the swarm comes out. The simplicity and cheapness of this little guard are also in its favor.

But is seems to me such a bee-guard accomplishes only a small part of what a drone and queen trap should. I should hesitate to put such a guard against the entrance of a large swarm abounding in drones, on a hot July Saturday night or Sabbath morning, and go to church feeling that my precious queen could not leave with a swarm. This little guard is only ⅞ of an inch square, in a cross section of it, and 9½ inches long, and it will not hold half the drones which some hives contain. I should fear the result would be, that the drones would clog up and entirely fill the guard, and my queen and all her colony would be in danger of suffocating.

The second bee-guard I sent for was a drone and queen trap made by Henry Alley, of Wenham, Mass. It is a wooden box 9½ inches long, 5½ high, and 2¼ thick. This box has two stories, or apartments, the lower story 1½ inches high, and the upper taking the rest of the box. Imagine an old-fashioned meal-chest with the ends extending down about a foot for legs, and a second bottom nailed on to the ends of these legs, and you have a large-sized illustration of this trap. The lower apartment is open behind, and has perforated zinc nailed on in front, and it is designed to give free outlet to the workers, and free ventilation to the hive, being a "down-stairs" entry, with a perforated zinc door 1½ inches high and 9½ long, leading straight into the entrance of the hive. The upper apartment of this trap is about 3½ inches deep, the whole of the box above the lower apartment just described being included in it.

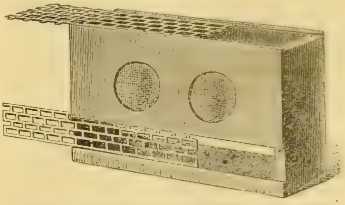
Georgetown, Mass. D. D. Marsh.

Perhaps I can better explain to our readers friend Alley's invention, by a couple of illustrations. The first one, which is the simplest form, is shown below:



ALLEY'S MACHINE FOR EXPELLING DRONES FROM A HIVE.

You will observe, friends, that this is simply an ordinary bee-entrance guard, such as we sell, only a little enlarged, and having the ends made of wood. Besides this, a wire-cloth cone is put into the center of it. When the drones find themselves unable to get through the perforated zinc, they of course seek the wire-cloth cone, or funnel, and go right out without any trouble. Workers can also go out of this cone, if they wish to. No bees or drones will go back that way, however, for they will all march right up to the perforated zinc, without seeing it; therefore the way it works will be to let all the drones go out that want to go out, but none ever get back. Your drones will therefore be found in front of the entrance at night, and may be destroyed. They may, however, go around to other hives to seek an entrance; and unless all hives in the apiary are provided with a similar machine, you would not get them. This arrangement would, however, have no effect on swarming, for the queens would go out through the funnel just as easily as the drones do.



ALLEY'S DRONE-EXCLUDER, DRONE AND QUEEN TRAP COMBINED.

You will readily understand from the above drawing, that the cones (which can be dimly seen through the circles of wire cloth), instead of being placed in the perforated zinc, as before, now both open upward into a box above; and this box, being covered with the perforated zinc, permits any workers to get out at once, if they happen to get into it. All the drones are simply boxed up until needed; and if there be any swarming, the queen also goes up into the drone-box. The swarm comes back and goes into the hive, remaining contentedly, probably because their queen is caged right in the entrance, and she is there safe until the owner returns from meeting, or wherever else he has gone. I must confess that this seems to me a pretty nice thing. The only drawback I think of is, that the queen may get through this perforated zinc. You know how many report of late that they have done so. The new zinc, with smaller perforations, figured on page 150, may fix the whole business, and probably will, if it does not worry the bees and scrape off the pollen. In the figure, the perforated zinc is shown, partially drawn out. This can be easily done at any time when you don't care to use the drone-catcher.

Now, friends, the next we are to do is to have a tube from this queen-cage, leading to a new hive all properly rigged, fixed in some way so the returning bees will go into it, and we have an automatic swarmer that does not have to swing around or keel over or go through any such antics. The only thing lacking is to get the entrance to the old hive turned away, or changed in such a way that the bees when they come back will cluster around their queen in the new hive. Who will work it out? You will find the prices of friend Alley's drone-traps in our advertising columns, and you can order them of us, if more convenient.

THE WAY FRIEND HOUSE USES REVERSIBLE FRAMES.

ALSO SOMETHING IN REGARD TO QUEEN-REARING, AND THE PERFORATED ZINC.

FRIEND ROOT:—I am overrun with inquiries in relation to honey-racks, reversible frames, and queen-rearing. I have not time to reply to these communications, and therefore send you by express some samples. The honey-rack I send is intended to set directly on the tops of the brood frames, thus leaving a space of ¼ inch between bottom of section boxes and top of brood-frames. I am not troubled by the queen getting into the surplus boxes, and depositing eggs, etc.; neither do we find any comb built between boxes and brood-frames. The rack is made for the 5¼x5¼x2-inch sections, and holds 21 boxes; the separators rest upon the end-pieces, which leaves the proper space for entrance into the sections. They can be tiered up as well as any rack I have ever seen.

The strip containing the tin and the staples will represent the bottom-board of hive. Either the tin or the staples may be used. I prefer the latter. They should be driven into the bottom-board, both across the front end and near the rear end of said board, and should be 1½ inches from center to center. The reversible frames rest on these staples. The staples in the center of end-pieces of frames sent will keep the frames at the proper distance from the sides of hive. I send 3 frames—one a closed-end frame, and the other two will show how *any* hanging frame can be made reversible. The one, you will notice, has pieces tacked on sides of end-bar of frame, to keep them the proper distance apart. The other is an old L. frame, with projections sawed off and made reversible, the same as can be done with any frame. I think you will find no trouble in seeing into the workings as described. If you do, write, and I will try to explain further.

I prefer the closed-end frame. I believe we shall soon *see* and *learn* the valuable points in the closed-end standing Quinby frame. Had our lamented Quinby been spared, I believe this point would have been brought to light ere this, and I think he had this *one* of many good points in view when he invented that frame. GEO. W. HOUSE.

Fayetteville, N. Y., Feb. 7, 1884.

I will explain to our readers, that friend House's reversible frame is on the plan of the Quinby closed-end frames; in fact, you will notice that he predicts that these are going to come into general use. His frame, however, is supported by a strip fastened to the bottom-board of the hive, both front and rear. Staples placed at proper distances in these strips space the bottoms of the frames. The frames are held the right distance apart at their tops by nails or staples driven the proper distance. They are, also, held from striking against the ends of the hives by the staples. Of course, these arrangements are all old. Having the frames made closed ends at all, or even a part of their lengths, would obviate the necessity of the nails. In connection with this, I may remark that friend H. also suggests a reversible hanging frame by putting a stout screw through the center of the end-bars. An ordinary tin rabbet is then placed half way down the ends of the hive. The frame can now be used either side up. But we shall be obliged to use spacers of some kind, or the frames will always be tipping over. Spacing nails or staples have been for a long time abandoned, by almost universal consent, and I hardly think they will obtain favor now. Friend House's rack for holding sections differs but little from many in ordinary use. Sections are held above the brood-frames by strips one inch wide and ¼ inch thick, these strips running crosswise of the hive, and supporting the ends of the two rows of sections. Many good bee-keepers use a similar arrangement, but I really can not understand how anybody can consent to let the bees get directly at the under side of the sections, to cover them with wax and propolis. I know, that at certain times, and with certain colonies, we do not get much wax or gum placed on the sections, even if left thus exposed; yet at other times they will all be covered with bits of comb and propolis. Why not have the whole section protected, so the bees can get at them nowhere, except where they go in at the entrances? In regard to queen-rearing, friend House writes as follows:

QUEEN-REARING.

That the queen-bee is the foundation of successful apiculture, none will dispute; therefore it behooves us to be very careful in the selection of the mother queen or queens. If the bee-keeper has no queen that fills the bill, or that comes up to the desired standard, it will be far better and cheaper to purchase such as have the desired qualities, even at a cost of fifty dollars. Above all, I would advise against breeding from Italian queens that have become fecundated from German or hybrid drones. The worker progeny of such queens may be desirable to some; but each succeeding generaation will deteriorate in value, unless the amount of Italian blood be increased with each successive crossing. Italians and Syrians are far different. A cross between these two races produces our best strains of workers. Many writers claim that we should not breed from queens more than two years old; in this I must disagree with them. I prefer a queen at least three years old and older, if she retains her vitality. How can we test the qualities for wintering—endurance, longevity, etc., when discarded at the end of two years? Some of the finest queens I ever saw were superseded queens, reared to take the place of five-year-old mothers. I will not discuss this point any further here, but will proceed to give what I claim to be the *best* as well as the most simple method of rearing queens I have yet learned or heard of.

To be better understood, I will first describe the hive used, and its arrangement. In this, hinges the success of this method. The hive is constructed for 11 frames, 11⅓x12½, outside measure; but instead of using 11 frames, we use only 8, using two wide frames containing four 5¼x5¼x2 sections each. Place one of these wide frames on each side of the eight brood-frames. The wide frames are made so that they go inside the hive with ease. On one side of each wide frame nail a sheet of Jones's perforated metal, covering the entire side of said wide frames. The colony having our best queen, with her wing clipped, being in such hive, we will proceed with the manipulation of the colony for the end in view. After the fruit-tree bloom, this colony should be stimulated by feeding a little honey or sugar syrup each day, so as to keep the queen laying in her full capacity. The same end may be accomplished by giving frames of solid brood about to hatch, taken from other colonies — the *object* being to have the hive crowded with bees as early as possible, thus inducing the swarming fever. As soon as the colony has constructed queen-cells that are nearly ready to be sealed over, preparatory to swarming, open the hive and take four of the eight brood-frames having the most and the best queen-cells thereon, and place them to one side of the hive after removing the wide frame. Now take the remaining four brood-frames and destroy all queen-cells thereon, and place them to the other extreme side of the hive, after removing the wide frame on that side. Now place the two wide frames in the *center* of the hive, with the perforated metal sides toward each of the two brood-nests, thus dividing the hive into two compartments, the queen being in the side containing *no* queen-cells. We now close the hive, and await the results. The bees go all through the hive at pleasure, but the queen is confined to one compartment, containing only four frames.

The colony already having the swarming fever, and the queen restricted in her egg-laying capacity, will in one or two days start new queen-cells. The bees will complete and nurse the fine natural queen-cells on the four frames at the other end of the hive. When a day or two before these first-constructed queen-cells are ready to hatch (about eight days) open the hive and cut out and use these cells; at the same time take the queen from the other side and place in the side from which you have just removed the cells. On the four frames from which we have just taken the queen we will find a lot of very fine natural queen-cells about ready for sealing. These the bees will complete and nurse to maturity. The queen, now having empty cells, will immediately go through the compartment (or four frames), depositing eggs in all vacant cells, when *new queen-cells* will be constructed. Just before the cells on the other side of the hive are ready to hatch, cut them out and use them, and put the queen on that side. Proceed in this way as often as the queen-cells mature, which you will find to be about every 7 or 8 days. In this way our cells are all reared in very powerful colonies, and containing brood in all stages, at all times. The cells are reared in a perfectly natural way, and under the swarming impulse. We have a laying queen in the hive at all times, and the colony is also storing surplus honey in the sections right along. You never saw finer nor better queens than those reared in this way.

If we do not let any young queens hatch in this hive, nor allow a queen-cell to be capped over in the part containing the queen, the colony may be kept building and rearing queen-cells until late in the season; and the colony will not attempt to swarm — at least, such has been my experience. The sections in the wide frames should be removed as often as filled, and replaced with new ones. I do not allow this colony to store any surplus on top of brood-chamber.

A GOOD REPORT FROM THE PERFORATED ZINC.

I have thought many times, after reading of the failures of those who reported their experiences (in GLEANINGS) with the Jones metal, how near they came to this plan, and yet failed to see the value of this perforated metal, but instead they cry failure, without knowing whereof they speak. This should teach us to be careful and searching in our experiments, before denouncing any thing as a failure. If one bee-keeper can succeed, others can. If we fail the first time, commence anew, and study our experiment as it progresses, step by step, until we find wherein we failed. In this way we will many times discover something new, and still accomplish the desired feat. I am pleased with the perforated metal. It is a success with me, and will be with others as soon as they learn how and where to use it. I believe it will be indispensable in the near future. By placing the entrance-guards at entrances of such colonies as are liable to be attacked by robber bees, such colonies will and can protect their homes to a great deal better advantage.

PERFORATED ZINC FOR DISCOURAGING ROBBERS.

It is seldom you will find a robber-bee to venture under one of these guards, especially when there are any bees acting as guards at the entrance. Robber-bees will not venture where they can not readily get away, unless the robbers have already gained a foothold. An ounce of prevention is worth a pound of cure.

G. W. HOUSE.

From the above description, I take it for granted that friend H. has his wide frames close fitting to the sides of the hives, although I may be mistaken. Very likely two frames of sections placed in the center of the hive, separating the brood combs, will be sufficient to keep the queen from passing around them, provided the frames were covered with perforated zinc in the place of separators. I have often reared two queens in a hive by using combs of honey to divide the brood, and I should think the point brought out in the above might prove an excellent one. I am quite sure the drone-guards would aid a colony in keeping robbers at bay, as suggested.

BUYING AND SELLING BEES.

HOW SHALL WE MEASURE OR WEIGH THEM ACCURATELY?

THERE are at present three ways by which bees are bought and sold; viz., in full colonies, in nuclei, and by the pound. A full colony is supposed to be what bees and brood may belong to a hive of combs of a specified size and number; and the purchaser knows but little about how many bees he is getting when ordered from where he can not examine them before buying. A certain number of combs, of a specified size, containing brood and bees, are sold as a nucleus; and, like the full colonies, are as liable to vary as a politician's principles, and the buyer may or may not get a good bargain.

But when a man buys bees by the pound, he knows just what he is getting; for when his bees arrive, he can weigh them in the cages, then open the cages, let the live bees run out, weigh the cages again, and figure up just how much the live bees weighed; and if not as much as was ordered, sends bill for the difference; and, of course, the dealer sends on enough to make up the deficiency.

Now, this would be just *the* way to buy and sell bees, were it not such an unnatural condition for the bees to be in while in transit, causing so many to die that the loss is too great between the seller and buyer.

Though I have sent bees hundreds of miles, by railroad and stage, with no complainable loss; yet again, with them just as carefully packed, at less distance, the loss has been enough to almost condemn the business. That uneasy, discontented buzz of bees caged for transportation by the pound, is a sound any thing but pleasant to my ears.

Far the best way in which to ship bees, for all parties concerned, and especially for the bees, is mostly in the brood, estimated by the thousand. This can be quickly done by measuring the patch of brood with a rule, finding how many square inches it contains, dividing the number of square inches by 2 (where the brood is about the same on both sides of the comb), and you know just how many hundred bees there are in the comb; for bees in the brood lay just about 5 to the inch each way. But, what are bees worth per thousand? We have got used to estimating them by the pound, so we will reduce it. I have found by actual count, that 120 live Italian bees weigh an ounce. Friend Root estimates them at 125 to the ounce, or 4000 to the pound, and that is near enough for all practical purposes. Then when 1 lb., or 4000 bees, are worth $2.00, one thousand would be worth 50 cents. For example, a party orders of a dealer 40,000 bees. The dealer having light, but strong cases prepared in which to send them, goes to his hives, selects the best-filled combs he can find, each comb containing some honey, as well as the brood. He places his rule on the patch of brood, finds it about 7 in. deep by 11½ long, makes 80½ square inches, divides by 2, and has 40¼ hundred, or 4025 bees; marks it down, puts the comb in the case, and proceeds the same with the next, and the next, until he has, say, 29,000 bees, in all stages of brood. He then sets the cases on the scales, takes the weight, then brushes live bees enough on to the combs to make 11,000, which is 2¾ lbs., shown by the scales, thus the number ordered is made up. The live bees take care of the uncapped brood; the honey furnishes food; all feel contented, and, though confined, and on the road for days, there will be no loss.

When the buyer receives them, he can weigh and measure the bees and brood, if he chooses, and thus know as accurately what he has secured as though they were loose in a cage, and ¼ to ⅔ dead. But generally, those who wish bees by the pound don't want the combs; in that case, let the buyer select from his own stock of combs, some as nearly like those received as possible, inclose them in the cases in which his bees have come, and the express company will return them to the shipper free of charge. If it is not desirable to exchange combs, the cases and combs can be detained until the bees are all hatched, and then returned.

The buyer will need to order a little earlier, to have his bees out, and ready for business at the desired time. It is always a satisfaction to all parties concerned, to be accurate in deal. But the old way of buying bees by the colony, or nucleus, is so indefinite, that the plan of buying them by the pound is fast growing in favor. And while accuracy is a very desirable feature, let us manage the matter so that our pets shall not be the sufferers in consequence.

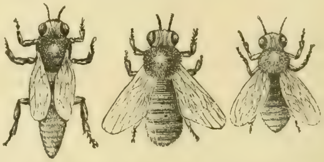
S. C. PERRY.

Portland, Ionia Co., Mich., Feb. 18, 1884.

Friend P., you have hit upon a very important matter indeed, and I would accept your suggestions with alacrity, were it not that you have overlooked one very important point. Bee-keepers do not have brood-frames all of one standard size. We have tried filling orders with Simplicity combs, until we had such grievous complaints that I was obliged to give it up. One friend said he would not have such great long shallow frames if they were given him for nothing; and as he couldn't get them into any hive he had, he let the brood die, and wanted us to pay for it. Sending bees in a cage by the pound, makes it all pleasant; for no matter what the hives are, the purchaser can just shake the bees off on his own combs, or on his own frames, filled with brood, if he chooses, and every thing is lovely, for the bees themselves are all of one dimension. Isn't that lucky for us, friends? I know what you say about a little brood making the bees contented is true, and I almost begin to think about having narrow sections containing brood, so we could get one into every bee-cage. But, alas! we have tried it, a great many of us, and it is a real task to have a little frame, the size of a section, always at hand containing some brood. I really do not see any way in our shipping business, but to send bees in cages by the pound, although I do know that a one or two frame nucleus is much more likely to be all right every time. May be we are coming nearer to a standard frame than we were a few years ago, for *our* A B C pupils are pretty sure to have the Simplicity frame, and nothing else. Your idea of buying bees in the form of sealed brood, instead of live ones that can buzz, and have to be fed, is a grand one, and combs of brood can always be had in abundance in warm weather; and where built on wired combs, they can be shipped anywhere, almost without the possibility of the loss of a single bee.

PICTURES OF BEES.

WE have been working about two months to get accurate pictures of the queen, drone, and worker; and although I am not quite suited with them yet, I submit the result to you below.



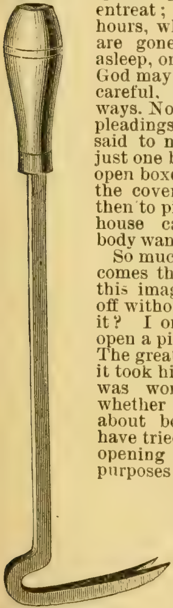
QUEEN, DRONE, AND WORKER.

The worker is one we took from a photograph. The drone was figured out from the best cut and drawings we could hunt up. The queen was also taken partially from a photograph. If they please you, we can furnish you the whole set for 40 cts. If they don't please you, I wish you would try your hand at it, and see if you can not give us some better ones. I believe the best picture of queen, drone, and worker that I ever found anywhere are in Huber's book, published in 1841. They are colored steel plates; but as they represent black bees, they are not quite what we wanted. We did not receive them until after we had made the above, and I really have a notion to try to make some copies of them.

OPENING BOXES.

ALSO A WORD IN REGARD TO THE CARE OF EMPTY BOXES.

ONE of the worst troubles I have in our establishment is to find boys who will open a box carefully, put the cover back in place, and go and put it back in the box-house. It sometimes seems as if they had been instructed at home to smash every thing in the shape of a box they got their eyes on. If they don't do that, almost the best of them will take the cover and lay it down somewhere, and somebody will come and take it for something else; and then when the box is wanted, a cover has to be made of unsuitable lumber, and it goes to our customer looking so cheap and patched up that I am ashamed of the workmen I employ. "Please don't break the covers, boys," and "Please don't forget to put the cover on nicely, and put the box away where it belongs," I urge and plead and implore and entreat; and after working hours, when the poor fellows are gone, and may-be sound asleep, on my knees I pray that God may help them to be more careful, and learn wisdom's ways. Notwithstanding all these pleadings, I have oftentimes said to myself, "Oh for a boy, just one boy, who would love to open boxes carefully, and to put the cover back carefully, and then to pile them up in the box-house carefully, until somebody wanted just such a box!"



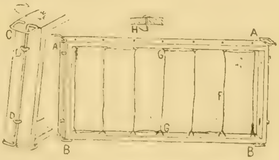
So much for my trials. Now comes the question, How shall this imaginary boy get the top off without breaking or splitting it? I once saw Gen. Leggett open a pine box with a hatchet. The great man was careful, but it took him a long while, and I was wondering at the time whether he thought as I did, about box-covers. Well, we have tried a good many tools for opening boxes, and for many purposes we like the one figured alongside of these remarks best of any. The manufacturers call it the Pelican nail-puller. To use it, you put the claw just before the nail-head, and strike it on the back with the hammer till it catches the head, and then tip it back. They are nicely tempered, and we used one a long while before anybody could break it. If you will take a look at a box you will almost always discover that, to get out the contents, you do not need to take the whole cover off. If it is a large box, and the cover is made of three pieces, just get out the end nails of the middle piece, and very likely your goods will all come out very easily through this opening. If the cover is made of two pieces, draw the nails from just one only. Don't pull the nails clear out, but leave them sticking in the cover; then when you have removed the contents, put the cover right back, and set the nails down just where they went before. If the goods are packed in straw, have a basket near for the straw, but don't scatter it on the floor. If you know just where the goods are to be put, carry the box to that place, and put them away with one handling. If they go on a shelf, set the box on a high stool, tight up to this shelf. Then you will get the goods where you want them, with no waste handling; for every time you handle goods, it takes time, if it does not damage the goods by breakages.

The price of this Pelican nail-puller is 75 cts., and it can be sent by mail for 18 cts. That convention in York State objected to GLEANINGS, because I used its pages to advertise so many things. Now, friends, I expect to advertise goods that I find handy, as long as I live; and when I describe them, I expect to give prices, and you can tell whether you can get your blacksmith to make them cheaper, or whether you can get them cheaper at the hardware store. If you can, by all means do so; and if you can't, I shall be happy to assist you.

CONCERNING FRAMES.

SHALLOW FRAMES; THE NEW PLAN OF WIRING FRAMES; ALSO A SIMPLE AND PRACTICAL WAY TO REVERSE BROOD-FRAMES, AS WELL AS WIDE FRAMES, AT THE WILL OF THE OPERATOR.

FRIEND ROOT:--Herewith I send you by express the style of brood-frame I prefer for my own use, and the one I have been using more or less since 1876. The frame, as you will notice, is more shallow than the standard Langstroth, being only 7 inches deep and 16⅝ inches long, inside measure; 7¾ inches deep and 17⅜ inches long, outside measure. The frame being *reversible*, I make the top and bottom pieces, as you will see, of the same thickness. I prefer to make my frames now, top, bottom, and end pieces, all of one thickness; to-wit, ⅜ inch. This enables me to dispense entirely with the *diagonal* wires when wiring the frames for fdn. I use, as you will see, only 6 vertical wires, No. 30, for wiring fdn. by hand. I have also used five, seven, and eight such wires, but find six to be just about the right number for frames as shallow as mine. For the Given press I should use eight vertical wires of No. 36.



BALDRIDGE'S REVERSIBLE FRAME.

I prefer, also, fine wire-nail loops for the wires in place of the holes bored or punched through the top and bottom pieces of the frame; nails ¾ inch long, and of No. 20 wire, are about the best I have tried for wood ⅜ inch thick. Those with *flat* heads, or moulding-nails with *pin* heads, will answer. You will see both kinds in the frame sent you. You will notice that I begin at one corner of the frame to wire the nail loops, and do not stop till I reach the opposite corner. I have no trouble to wire thus right from the spool; but the better way, perhaps, is to cut the wires first the proper length needed. You will also see that the loops are bent in pairs, in opposite directions, so as to guard against the possibility of the wires slipping or getting off. You will find it pretty difficult to slip the wires off the loops, as arranged; but turn them half way round, the right way, and then you can slip them off quite readily; but the other way will tighten them. I find that I can wire the frames with less trouble, and more rapidly by this plan, than through holes in the wood. This plan gets rid of all *kinks* in wiring; and if the wire breaks *at any point* it can be readily repaired without a particle of additional wire, which is not the case when wired through holes in the wood. The wire nails for the wires may be, and perhaps should be, driven, and the loops made, while the frame itself is being nailed, and before it has been taken from the *form*. I suggest this to save extra handling of the frames. I prefer to nail my frames, when reversible, with eight one-inch wire nails with flat heads, using two nails at each corner.

The frame sent you, as you will be sure to see, is provided with my single-wire reversible devices (not patented), which enable me or you or any one to reverse the same *at will*, and without the loss of any time worth mentioning. I have attached to this frame two plans of making the reversible device. One of the plans requires considerable accuracy, when wanted for frames of special depth, outside measure. The other plan, as you will see, does not require so great accuracy, and may be used for frames of *any* depth. Some might prefer one plan, and some the other. Either plan has advantages over the other. The wire loop, or projection, for resting on the rabbets (and these may be wood or metal, as desired), needs be only as long as the width (⅞ in.) of the top or bottom piece of the frame; or it may be long enough, as per samples, to *space* the frames at top or bottom or both, the right distance apart, which should be, in my judgment, about 1⅜ in. from center to center of frame. But the loops may be made of any size and shape to suit one's wishes. If made as per samples, they can not cut one's fingers in handling the frames, and, as before stated, may be used with or without metal rabbets. This reversible device dispenses (as it can not be used) with your *projecting* "metal corners" for frames, but not necessarily with the style you use for the bottom corners of the frames, for these you can still use at *all* of the corners; but it seems to me that it would be just as well to dispense with them and their cost all together, and use the reversible device instead. The cost of making all frames reversible, whether in new hives or in those already in use, by the adoption of this reversible device, need be but a trifle more, and perhaps no more, than it costs now to supply new frames with your "metal corners." I have used in the samples sent you, No. 12 coppered wire, but would prefer *galvanized* wire, to guard against rust. Please notice, also, that one of the plans lifts the entire frame and contents *from the bottom*, and this does away with all danger of pulling the frames apart, as in the past, and that the other plan simply lifts the entire weight from the blind-staples.

For those who prefer to adhere to wide frames, supplied with sections for surplus honey, this reversible device when attached to *them* will be found of considerable value. From what I have seen *in the apiary*, I am fully persuaded that it will be highly advantageous to reverse the surplus honey as soon, at least, as a portion of it is sealed. This will not only hasten the sealing of the lower and uncapped cells, but will also secure as well-built combs at the bottoms as at the tops of the sections.

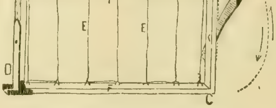
But, the above must suffice for the present. I am content to let the future demonstrate how much of the foregoing is mere theory or otherwise.

M. M. BALDRIDGE.

St. Charles, Ill., Jan. 22, 1884.

Friend B., your invention is very ingenious indeed, and it seems to me it must answer the purpose beautifully, but I should want to make a test of it in handling bees, before deciding whether I liked it or not. I do not believe I should like frames without diagonal wires, but possibly the smaller size of your frame might do very well. Our friends will notice in the engraving, that we make the wire loop square where it strikes back against the rabbet. I would have the wire bent so as to have this a sharp corner—that is, making the loop three-cornered. This would prevent the arm from killing bees so much, and it would also avoid propolis, with which they will glue it to the rabbet. I suppose the device will reverse, even when covered with gum and propolis; at least, I am satisfied it can be reversed without much trouble. Our engraver has made the width of the support C about the same as the width of the top-bar; but of course it could be made as you suggest, wide enough so that they touch each other, and thus support the frames. There would be one advantage in this: It would get a broader bearing, and thus more effectually cause the frames to hang plumb up and down. I will explain to our readers, that the modification of the device consists in cutting off the wire at the lower staple D, and bending it at right angles. By moving this staple D, we can raise the frame just as high from the bottom-boards as we choose. Wire can be purchased now quite cheaply, in straight pieces of an exact length, and all that remains is to make a machine that will turn accurately the piece C in the manner given above. D D are ordinary blind staples.

We have now tinned wire, No. 30 and 36, on spools at 3c per spool, or 28c for 10 spools. Each spool contains about ¾ ounce. Postage, 2c per spool. And now while we are on the subject of reversible frames, here is another device from another friend. I have had our engravers adapt it to the frame described above. The device will be readily understood, almost without explanation:



HOWES' REVERSIBLE FRAME.

The utility of reversible frames is no longer a question. They have been, and are still, being used by many practical bee-men, all over the country; and I have yet to hear of any person having once tried them, who is not enthusiastic in their praise. All who have given them a thorough trial have been convinced of their great advantage.

Mr. G. W. House, in GLEANINGS for January, 1884, page 21, says: "After this season's work, I am convinced that the reversible frame will come into general use, as soon as their simplicity and easy manipulations are understood, especially so with those who keep Italians, and work for comb honey; for extracted honey they are no better than others."

While I admit, that *no more* extracted honey can be obtained by using reversible frames, still I consider them far better, especially for those who depend principally upon natural combs, or foundation not in wired frames; as, by their use, the bees are compelled to build the comb *solid*, all round the frame, instead of just fastening it to the top-bar, and only part way down the sides, leaving nearly one-half the comb entirely unfastened to the wood, thereby rendering it easily broken out, particularly if well filled with honey. If others have never been troubled from this cause, I know one who has; and I considered it such a nuisance that I determined to have *solid combs*, or quit extracting.

I first tried having the combs built in deep frames, and then cutting off the end-bars to the required depth. This was a partial remedy; but it was a great deal of trouble; it took too many *deep hives*, and it kept too many colonies comb building, exclusively, with lots of other objections easily imagined by the expert. I soon found that *reversing the frames* was a complete remedy; but how to do it, with hanging frames, was a question. Nearly all the reversible frames were Huber, or standing frames, while hanging frames made to reverse were impracticable, by being too expensive, difficult to manipulate, or both.

After repeated experiments, I at last hit upon a device which completely removes the objectionable features from the reversible hanging frame; and I offer it to the bee-keeping fraternity with full confidence of a favorable reception from all who will give it an impartial trial.

I claim for the reversible frame, as I make it, the following points of superiority; viz.:

1. The comb is *stronger* than the old style, being better fastened to the wood, and less liable to break out.
2. It neutralizes the sagging of the top-bar, thereby doing away with diagonal wires.
3. More combs can be used in the brood-chamber, when working for comb honey, giving the queen more room, which means larger colonies, with less liability to swarm.
4. It does away, to a great extent, with the bother of extracting from the brood-chamber to prevent crowding the queen.
5. It compels the bees to store all surplus in the sections, instead of the brood-chamber, thereby increasing the yield of salable honey, with correspondingly greater profits to the producer.
6. It is cheap, and may be attached to any hanging frame, by cutting off the projecting arms; and, if the bottom-bar is too weak, replacing it with a heavier, or by strengthening it by a strip slipped under, and tacked fast.
7. It is as easy to use or manipulate as the old style, and may be reversed as quickly as to return it to the hive, just as taken out.
8. It is durable; will last a lifetime, and can not get out of order.

C. J. F. HOWES.

Adrian, Mich., Feb., 1884.

If any of the friends want my opinion in regard to this matter of reversible frames, I shall have to say that I am not prepared at present to decide. I want to see them used in the apiary. Reversing sections partly filled is an idea that I gave a good many years ago in the back volumes of GLEANINGS. We had a case made to reverse. When reversed when honey was abundant, it caused some of the combs to lop down and curl over. If we had waited until the sections were nearly filled, of course we should have had no trouble.

"HOW DOTH THE BUSY BEE?" ETC.

HOW MANY TRIPS DO THE BEES OF A FAIR COLONY MAKE IN A SEASON?

IN the spring of 1883 I had one colony of bees which, by the first of May, were very strong, and in an excellent condition for work. They were bright Italians, being blooded stock from an imported queen. Having nothing with which to occupy my idle hours, I concluded to devote a part of the time in trying to determine the amount of labor performed by this colony of bees during the months of May, June, July, and August, in their outdoor work. In order to accomplish this task, I set apart five days in each month (or twenty days in all), commencing my labors at 5 o'clock A. M., and closing them at 7 P. M., on each of the twenty days, selecting the brightest and warmest days in which to make my observations, and using one minute in each hour in gathering the data on which to found my conclusions. The entrance to the hive was arranged in a way to enable me to count (quite accurately) the bees as they entered the hive. This counting was done by seconds of time, making, after each count, careful memoranda of the result of each minute of time used in the investigation, and at the close of my observations for the season I was able to determine, from the grand aggregate, the average number of worker bees entering the hive per second, for the daily periods below mentioned:

From 5 A. M. to 6 A. M. one bee to the second.
" 6 " " 9 " two bees to the second.
" 9 " " 4 P. M. four " " "
" 4 P. M. " 6 " three " " "
" 6 " " 7 " one and one-half "

—making the daily average of worker bees entering the hive to count 153,150, for a day of fourteen hours. For the months of May, June, July, and August, we had 50 good working days, 25 favorable, and 15 only tolerable; the average was about 75 good days as to weather, but all very poor in the secretion of nectar.

During this period of 75 days, the grand total trips made by my working bees was eleven millions four hundred and ninety-five thousand two hundred and fifty trips (11,495,250).

This colony gave me 60 lbs. of surplus honey in sections. From the published experience of those who know much about bees, I presume, from perusing their opinions as published, that it would require, for the support of a strong colony, and the rearing of brood, and building of comb, during the breeding season, about 60 lbs. of ripened or capped honey, which is a very reasonable quantity. This amount added to the 60 lbs. of surplus honey, makes 120 lbs. of capped, or ripened honey, deposited by my bees in the four months.

Bee-masters tell us (or, at least, some do), that the nectar gathered by the bee contains about two-thirds of watery material, which must be evaporated by the heat of the bees after it is placed in the cells, before it is ripened sufficiently for capping. If so, this 120 lbs. of capped honey would represent, by weight, 360 lbs. of nectar. Then, again, we are informed by some writers, that during the breeding season a strong colony of bees will, in addition to the honey, require about 40 lbs. of pollen and water. If so, the total amounts by weight, taken into my hive by the busy bees would amount to 2,800,000 gr. troy, or 400 lbs. av., being one-fourth of a grain troy and a fraction, per trip. If you weigh ¼ gr. troy of honey, it would appêar to be enough to fill the honey-sack of the bee to an uneasy distension.

In counting bees, you must not use the tongue, and say one, two, three, but you must educate the eye so as to be able to count by your sight. My pulse is very regular in its beats of sixty to the minute; so when I took my seat I placed myself in an easy position; thereafter becoming quiet. I placed my finger on the wrist and my eye on the entrance, and the eye told the number entering the hive between each pulsation. ANON.

St. Joseph, Mo., Jan., 1884.

CASES VERSUS WIDE FRAMES.

HOW SHALL WE GET THE MOST HONEY, WITH LEAST CAPITAL AND LABOR?

YOU are no doubt aware that Bro. Doolittle and myself work very differently in our effort to accomplish the same purpose; viz., to bring from nature the greatest amount of income, with the least capital and labor. I wish to compare our different systems of management as they appear to me. In reading Bro. Doolittle's descriptions of his management, we are impressed with the idea that he is trying to see how much surplus honey he can get from one colony, or from each colony in his apiary. This would imply that the production of a field, or area, is endless; and were this a fact, which it is not, as we well know by observing the actions of the Grimms, Hetheringtons, and Oatmans, Mr. Doolittle's system of management would rest upon a correct basis. My aim in prosecuting this business is to get the greatest possible amount of surplus from each area I occupy, with the least amount of capital and labor.

One of my objections to Mr. Doolittle's system of management, a system which, if I am correct, no large honey-producer in America is working upon at present, is the great amount of extra labor and manipulation it requires. Labor is equivalent to capital, and vice versa. I have found that I can exhaust a field of its stores much more cheaply than can be done by Mr. Doolittle's system (with which I am not without experiment), by investing a little more capital and very much less labor. My opinion is, that a hive should be so constructed and arranged that no "coaxing" nor driving of the queen is ever necessary or useful. We know what we wish to accomplish. If we can arrange our fixtures to work out the desired result automatically, we would surely do so. We can not do this, but we can somewhat approximate it, and this we think we do to a far greater extent than Bro. Doolittle with his complicated system of almost endless manipulation. His assertion, that when only top cases are used, the bees must be crowded for room before they will enter them, is not true with our fixtures. We have never lost a drop of honey so far as my most careful observation could detect, with this case system of comb-honey production, except in times of excessive flow; and the same would be true with any system, where empty full drawn combs were not given the bees; for in such cases the field bees bring in the nectar faster than the wax-workers can make cells to hold it, even with the use of the most pliable foundation.

Such instances, however, are not common; but I deem them the greatest argument in favor of extracted vs. comb honey. If we give a prime swarm 8 standard L. frames of good fdn., we find them almost solid with brood before the surplus season ends. It will thus be seen that we suffer no loss by that proceeding. We think Bro. Doolittle's mistaken statement, above referred to, arises from the fact that he has fallen behind the times regarding the use of comb fdn., and that he was much more behind the present time, in the arrangement of his fixtures when he experimented with top storing only.

If our colonies have little strength, they gather little honey. If otherwise, with our arrangement they enter the cases, draw the foundation, and there store the honey as soon as they have any to store.

Bro. Doolittle is mistaken. We long since got rid of that hindrance, known as brood-chamber clogging, with honey. I freely admit, that with our system of management, occasionally a failing queen overlooked will hold down her colony so that the sections are not entered. What then? The brood combs are not crowded with either brood or honey, for the queen is a failure, and the workers are few. This colony does not oppose our other colonies in our field. All that is needed to make up for these occasional oversights is two or three extra colonies, and we exhaust the field all the same. We have not yet reached perfection, and our system obviates the necessity.

Losing surplus honey by the swarming of swarms is something that does not happen with our system of management.

Five or six years ago, Mr. Oatman and myself discussed long and loud this subject of storing in sections in the lower story. Last winter Mr. O. laughed at himself that he ever practiced "so ridiculous a system." At present he uses top storing only, although his hives are ⅓ larger, being 2 in. deeper than the 8-frame L. which we use. Mr. Oatman's present success compares more than favorably with that in the past.

My objections to Bro. Doolittle's system are my objections to broad frames and separators, on general principles; that sections, if finished in the brood-chamber, are apt to be discolored; in either case they are apt to contain pollen, if in a location where that abounds. But the one great objection is the excessive amount of labor it involves, and we think we have found, *unnecessarily* so.

One of my brightest students of 1883 had for three years carefully read and tried to use Bro. Doolittle's system. As soon as he came to work with ours he became eloquent in its praise. The above are some of our reasons for prefering our system to Bro. Doolittle's.

Now a word regarding Bro. Miller's experience.

First, I, too, prefer tin to wood separators, after using hundreds of both. I claim that our non-separatored sections are better to ship long distances than those built with separators, because the combs being about ¼ in. thicker (if the same width sections are used in both instances) have a greater breadth of attachment, according to weight of the comb, the size of the section otherwise being the same. Either kind, when crated, does not and can not touch each other as long as they do not break loose from the section.

Regarding my supers being light to handle, the ones I made Bro. Miller (to his order, and I also made a few of the same to test here), were twice as heavy as my regular super or case. Though the principle otherwise is just the same, I want no more of them. We last year used 350 one-story brood-frame supers, with 6 broad frames each, holding four 4¼ sections each, and six ½-lb. sections each. Of course, we used narrow top-bars, and can not see why Bro. Miller should allow himself to be encumbered with tight-fitting ones. We found we could remove 100 lbs. quicker, cleaner, and with less damage, from the cases than 50 lbs. from the broad frames. Surely the doctor has not yet caught on to our method of removal. I know that is the worst feature of all, till understood, and then 'tis the best.

JAMES HEDDON.

Dowagiac, Mich., Feb. 4, 1884.

Friend H., I like your article first rate, but it seems to me you are a little rough-shod on our friend Doolittle in accusing him of being behind the times with his fixtures. My impression is, if you will allow me to put in a word here, that friend Doolittle, with his fixtures and management, would get more honey from a colony than you would; but I am also inclined to think that perhaps the extra labor his plan involves might not pay for the excess of honey. You make a good point where you contrast the difference between trying to get the largest surplus per stock, and trying to get all the honey the field produces, without much regard to the number of stocks required to do it. I presume more labor will be required to get a given amount of honey from a large number of colonies, than to get the same from a few. Modern farming aims to get as much produce from one acre as has been secured heretofore from two or more acres, and I believe that modern farming saves labor by so doing. Perhaps your plan may be pushed to too great an extreme to be profitable. By the way, I wish you and friend Miller and others, in mentioning these different cases, would tell about how many pounds of honey a certain case would be likely to average.

HOW FAR WILL BEES FLY IN SEARCH OF HONEY?

ALSO SOMETHING ABOUT HOW FAST THEY FLY.

I SEE, in the bee-papers, considerable on the above points; but as much of it appears to bee guess-work, I feel like saying a few words. In my younger days I lived on the north side of Oneida Lake, in New York. The lake was 4 miles wide, at the place I speak of, and I know that the bees flew across the lake in great numbers, to gather honey out half a mile from shore. There was a small island, and one mile from shore there is another island. It was a great resort for the village folks to go out to those islands to catch fish, and I went out there a great many times fishing; and while sitting in my boat, anchored out a few rods from the island, fishing, I saw bees flying past, some going one way and some the other. They flew from four to eight feet above the water, and sometimes one would alight on me, rest a minute, and then go on. There were 50 or 60 colonies of bees kept in and near the village, on the north side of the lake, and I believe the bees got nearly half of their honey across the lake, as the feeding-grounds were very much the best over there. Those islands had no flowers on them, and the bees did not stop there, and very likely they occupied the ground a mile or two from shore, on the south side, after they got over the lake. I have no doubt but many perished in the lake, but not so many but that bee-keeping was a fair success there, and swarms would often go across the lake.

I could give several proofs of bees going 6 miles for honey, but I want to say a few words about how fast they will fly when at work. I have hunted wild bees a good deal—so much so that I got to be an expert at the business, and by repeated tests I found they flew 30 miles an hour, or one mile in 2 minutes, in good weather, and I could tell very near by that rule how far off they were, by timing them after I had my line well started—mark a bee, note how long it took to fill up with honey, allow the same time to unload, and 2 minutes to go in and out of the hive or tree, and then divide the remainder of the minutes it was gone by 4 minutes, and I would have the distance in miles to the tree. I ran a bee-line in New York State 6 miles, and it took me a week to do it. It took a bee just 30 minutes to make a trip that distance, 6 miles. There was only one bee that would come back to my first station, or starting-place. I marked the bee, and it stayed with me until I got through the woods, 6 miles. Usually when we start a bee-line, other bees from the same colony will come back with our first ones, and help carry the honey; but I left this one all of one day, when I found it had no help.

There was an old chopping, 1½ miles on the line. I moved that one bee to that place 3 times, before it would return to the new place. Then I moved it ½ mile. I was now 2 miles ahead on the line, and the time that my bee would be gone would average 8 minutes less than at the first position. I now left it 2 days, to increase its working force, when I found my one bee had increased to 4, and all making about the same time. I now made a move of 2 miles ahead on the line to another old clearing in the woods; and after they were fairly at work I found I had gained, on an average, 16 minutes in time for the bees to make a trip, and I was now getting plenty of bees to come back with my workers at this distance, which proved to be 2 miles. The bees could then bring others with them quite fast. The next day I worked them through to their home in a hive, in time to take supper with their owner, and we did not have honey for supper either. But I learned that in this case the bees flew one mile in 2 minutes on an average, both ways, and that my one bee could not get another bee to follow her half the whole 6 miles. At 4 miles there was a gain of only 3 bees in 2 days; and at 2 miles they gained fast, and the last mile they just swarmed into my box.

EDWIN FRANCE.

Platteville, Grant Co., Wis.

Many thanks, friend F., for your very practical article. I have hunted bees some myself, and I have worked them the way you state, although I never timed them with the view of getting distances as accurately as you did. As the bees took some time to get under way and stop in your experiments, and as they were all pretty well loaded with honey, probably, it seems quite likely that their average speed on a long flight would be toward 40 or 50 miles per hour; but I am inclined to think they do not often go much beyond this.

DRONES AND QUEENS.

POSITIVE PROOF THAT DRONES DO COLLECT IN BODIES IN SWARMING-TIME.

MY bees, near a hundred stocks, together with about fifty nuclei, stood near the house in dense shade during the past summer. About 3 o'clock in the afternoon one day in July, I left the house and started around the apiary, looking for swarms in the trees. When I got about the middle of the north side I stopped to pick and eat a few raspberries. As soon as I stood still, I could distinctly hear overhead that peculiar roar so readily heard where drones congregate in great numbers. Never before had I heard it near an apiary—generally some half-mile or more away. I continued eating, listening and meditating quite a good while. Presently the sound indicated that the drones were coming nearer and nearer, and that they were unusually excited, and very angry. This caused me to turn half around and look, whether I might not see them, they seemed so near. And, sure enough, about a rod to the northwest, there they were in a cluster, the shape of a balloon. The cluster retained its form, but moved rapidly eastward, about ten feet from the ground. I hardly know how to describe to you how agitated they seemed, and how each particular drone seemed to exert himself, and whiz and whirl as though he expected by his bluster to bluff every other drone, and every other one seemed to be trying to do the same thing, till all was a perfect medley of confusion and anger. After they had got some four or five rods from me, a few of the lower ones fell to the ground, while the greater number would disperse and become invisible, except now and then one would whiz past close to me, sounding for all the world as though he had a notion to *sting*. In a few minutes more, another cluster would form, and go through the same performance, and disperse as before.

I then walked out into a clover patch, and called my son to witness what I thought to be a rare scene. I was amused to see him dodge, as I had felt like doing, when one of those angry drones would come near his head. It was hard to believe they would not sting. We both saw the same phenomenon repeated several times in a few minutes. Finally, as we were looking toward the sun, with a piece of timber for a background, we saw a few drones fall from a cluster, and now and then one flying past where they fell. When we went to the spot we found one *live* drone on a stalk of red clover, and in the same bunch a queen, evidently a virgin, and with her five worker-bees. She was brushing herself with her leges as if preparing for flight, while the workers were carefully watching her with an appearence of anxiety. I sent for a cage, put the queen in, sent her to the house, directing that she be fed, intending to clip her and introduce her to hatching brood. Just then I was called away; and when I returned at evening, I forgot all about my queen. Next morning she was dead. I was sorry. I felt as though I had neglected a rare chance to prove that she had been fertilized. I wish I could have the opportunity again! J. S. HUGHES.

Mt. Zion, Ill., Feb. 14, 1884.

Friend H., you have given us another link in the chain of evidence, showing that drones congregate in such bodies during the afternoon of every pleasant day in the proper season. When a young queen goes out, she by instinct seeks this great body of drones, and is soon fertilized, and returns to her hive. If she does not find this body of drones, she perhaps makes another trip some other day, and so on. I have often heard them in the air, and have tried to see them, but they always seemed too high up for sight.

BASSWOOD.

DOOLITTLE TALKS TO US ABOUT IT.

ON page 44 of GLEANINGS for Jan. 15, 1884, I see friends Stehle and Knowles are thinking of moving their bees to where there is plenty of basswood timber, after the clover-bloom has gone, or is about to fail. The plan is a good one, and I can see nothing against it, except the expense. I believe basswood to be the greatest honey-producer of the world. In fact, no report has ever been given (if I am correct) of an average yield of 20 lbs. per day from a single colony for 30 days in succession, except from basswood. Gallup had a colony do this. I had one which gave that for about 10 days, the best yield being 66 lbs. in 3 days. Now, if the above friends can move their bees to the basswood, and return them at an expense of $1 00 per colony, it will be seen that 10 lbs. of extracted honey from each colony will pay the cost, if they should get that much surplus; and if the cost should even come up to $2.00 each, 20 lbs. would make it good.

By going back over my account with my bees for the past 12 years, I find that from basswood alone my yield of *comb* honey has not been far from 70 lbs. on an average, from each colony, each year, the lightest yield being about 45 lbs., and the heaviest 120 ℔s. This is the average yield of the yard, not the yield of individual colonies. Now, if we call 70 ℔s. of comb honey what we can expect one year with another from basswood, and allow that ½ more in ℔s. can be obtained where we work for extracted honey, we shall have 105 ℔s. as an average yield of extracted honey. If we allow 20 ℔s. of this as the cost of moving our bees to the basswood, we shall have 85 ℔s. left, or $8.50 per colony, calling the honey worth 10 cents per ℔. So if 100 colonies are moved, we have $850 free of all expense for our undertaking. But we will suppose the year we move to the basswood to be one of the poor years, and only 45 ℔s. of comb honey is obtained. This would give 67 ℔s. of extracted honey, or 47 lbs. after paying for moving, equaling $470 for 100 colonies. Hence I should consider it a very safe investment to move my bees to a basswood region, if I lived where there was none.

On page 44 I notice these words: "If I am correct, the basswood-trees form the buds and leaflets 3 or 4 weeks before they open and secrete honey, which should enable us to ascertain in time to move, or not." The fruit-buds and leaflets to all trees with which I am familiar are formed in June and July of the preceding year, so the results of next season's honey-yield, as far as buds and flowers are concerned, are already formed in embryo, on the apparently bare and lifeless branches of the basswood-trees, as we behold them these zero days of winter. They wait only for the warmth of spring, to bring this dormant life into growth. As soon as these buds unfold, the latter part of May, then we can see and know, as Mr. Stehle says, whether to "move or not." By examining closely we can find the bunch of buds at the base of each leaf, curled up, looking like the half of a very small pea, or perhaps a little fuzzy caterpillar would explain it better. With each week this bunch of buds grows, till at the end of the 7 weeks from the time the trees put on their green in the spring, they open their flowers, filled with nectar to invite the bees to a sumptuous feast. Of course, a cool season will retard the time of blossoming a little, and a hot season advance it; but the above is the rule. Thus the practiced eye can tell nearly two months in advance, as to the promise of a yield of basswood honey.

I now come to friend Root's question, asked on page 81 of Feb. Gleanings, where he says, "Perhaps friend Doolittle can tell us if they ever have seasons where basswood is the thickest, when it yields absolutely no honey." I have never known such a season. The shortest yield I ever knew gave a 3-days' yield, in which honey was so plentiful that the bees could not prepare room fast enough to store it, with a gradual tapering off of two days more, making 5 days in all. The longest season I ever knew was the one just passed, which gave a good yield for 20 days, with 3 days in the center so cold the bees could do nothing, and two days tapering off, making 25 days in all.

The state of the atmosphere has very much to do with the secretion of honey in the basswood-flower. The most unfavorable weather is a cold, rainy, cloudy spell, with the wind in the northwest. If basswood came at a time of year when we were liable to have much such weather, there might be such a thing as an entire failure of honey from it. But as a rule we have but little such weather at this season of the year. The condition most favorable to a large yield is when the weather is very warm, and the air filled with electricity. At times when showers pass all around, with sharp lightning and heavy thunder, the honey will almost drop from the blossoms, providing no rain chances to come within a mile or two of us. At such times as this I have seen honey in the blossoms after they had fallen off on the ground, so that it sparkled in the morning sunshine. Then this nectar is honey, and not sweetened water, which makes basswood doubly valuable over most of the other honey-secreting plants and trees. One bee-load of nectar from the basswood, in a dry warm time, is equal to 5 from the teasel, or 3 from white clover. In a rainy time there is not so great a difference. At times when basswood was yielding its best, I have seen more than a bee-load of honey in a single flower. Each little flower has 5 concave or convex outside leaves, on the inside of which, near the base, the honey is secreted. By holding these up so the sun will shine into them, you can see the honey, or see where it is, by looking through from the back side. At times when all is favorable, the drop of honey in each of these cups will be as large as medium-sized shot, while when not favorable they can scarcely be seen. I have taken one stem of blossoms, when the yield was great, and passed it over my hand, when I would have several drops of nice thick honey in my hand. One peculiarity I have often noticed is, that at such times not more than half of the trees would be visited by the bees. There are two quite large trees standing about 5 rods apart, in an open field, not far from my apiary, which are both visited by the bees in times when but little honey is secreted; but when the secretion is profuse, one tree only will be visited by the bees, while, as far as I can see, both yield honey alike. So I have often noticed along the edge of the woods, trees all sparkling with honey, with not a bee near them, while others will resound with the merry hum of the bees. Why this is, I do not know, unless they get started at work on a certain tree, and finding all the honey they can take, and more too, keep going to the same spot. At such times as this, 1000 colonies of bees could find all the honey they could carry, if all were left at one place; but at all other times, I think from 100 to 200 would be ample for any locality.

In conclusion I would say, that, were it not for basswood, I do not believe there would be honey enough in this locality to make it pay to keep bees, unless it were a few so as to get a little honey for family use. G. M. Doolittle.

Borodino, N. Y., Feb. 16, 1884.

Friend D., I am prepared to indorse every word you say in regard to basswood, unless it is to ask if you have not made a mistake in saying that Gallup had a colony that gave 20 lbs. per day for 30 days in succession. It may be so, and that I have forgotten it; but it seems almost incredible. That is 600 lbs. from a single colony in one season, and I can not remember that I ever knew 30 good honey days in succession in all my experience in bee-keeping. I wonder if friend Gallup was not a little excited when he made the statement. I am very glad indeed to get such an article from you at just this crisis; for if bee-keepers don't go to planting basswood forests, and that, too, right quick, their occupation, like Othello's, will soon be gone, or, at least, a great part of it. Your article has stirred me up to the importance of putting out 50,000 or 100,000 little trees on our honey-farm. Of course, these will be used to fill orders, rather than to let them grow up for honey. I, too, have seen honey sparkling from the blossoms, and the sight of it in our young basswood orchard, at its present stage of growth, is enough to make anybody enthusiastic, even if he is not more than half a bee-keeper. Remember, dear friends, however, that it is an expensive undertaking, and one has got to wait many long years for a crop. Our basswood orchard was planted 12 years ago this spring, and not more than half the trees are yet in bearing; but they were put on a rather poor piece of land, and were set too far apart. I would have them not to exceed 12 feet each way; and when the trees get to be crowded, take out every other one. If they are small, half that distance might do, for the ground must be pretty well shaded to get the best results. The sun hurts them. The way they grow in a dense thicket in woodland where no stock is permitted, tells us pretty plainly what kind of treatment they need.

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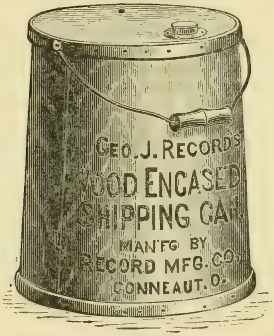
WHAT SHALL WE PUT OUR HONEY IN?

PAILS, BARRELS, TIN CANS, ETC.

SOME one has said, that the package for holding honey ought not to exceed one cent per pound, either in large lots or small; and a good many have decided that they do not want it in barrels at all, although barrels are probably the cheapest package that we can have, and the railroad companies will carry honey in barrels cheaper than in any other shape. The iron-jacket cans have answered beautifully for shipping honey. We have received and sent off several tons in them, and have had no leakage and no breakage, and the honey is as pure and sweet as the day it was taken from the hive. I am very much inclined to think that barrels are very apt to give a slight taste of the wood. Well, the iron-jacket can costs $1.10 for the 10-gallon size, while the can we show in the figure below, 10-gallon size, costs only an even dollar, and in quantities of ten, only 90 cts. each. This can, however, is not protected by iron, but by wood, and as it is a rather pretty pail, quite handy for many purposes, it may prove a favorite. It has a large-sized nozzle, so that thick honey may be poured out rapidly. I do not see why they do not put a screw cap over it. This reminds me that we have shipped some large amounts of honey in the screw-cap cans, and have never had a report of leakage; so it seems to us, the improved Jones honey-pails, with the screw cap, are going to be the thing. We can put a large-sized screw cap on either the iron jacket or the above style of cans for 10 cts. extra.



THE WOOD-ENCASED SHIPPING HONEY-PAIL.

LETTER FROM W. F. CLARKE.

FRIEND ROOT:—I was quite disappointed that I did not get more talk with you at the Toronto Convention, but it was a very hurried time. "There were many coming and going, and there was no leisure, so much as to eat." Most of my life has been that way, but I have now settled down as a quiet "country parson," and begin to realize what Miss Havergal describes in the inclosed lines, which are good enough to publish in GLEANINGS, or anywhere else, for that matter.

Bees? Yes, of course I must keep some. Though the "pesky critters" (I can't call them "little pets," they won't let me) sting me unmercifully, and the stings swell, and the virus goes to my head, I can't let them altogether alone. WM. F. CLARKE.

Speedside, Ont., Can., Jan. 24, 1884.

A LULL IN LIFE.—MARK 6:31.

[Affectionately commended to Bro. Root, who needs "a lull in life" about as badly as any man I know.]

Oh for a desert place with only the Master's smile!
Oh for the "coming apart" with only his "rest awhile"!
Many are "coming and going" with busy and restless feet,
And the soul is hungering now, with "no leisure so much as to eat."

Dear is my wealth of love from many and valued friends,
Best of the earthly gifts that a bounteous Father sends;
Pleasant the counsel sweet, and the interchange of thought,
Welcome the twilight hour with musical brightness fraught.

Dear is the work he gives in many a varied way,
Little enough in itself, but something for every day,
Something by pen for the distant, by hand or voice for the near,
Whether to soothe or teach, whether to aid or cheer.

Not that I lightly prize the treasure of valued friends,
Not that I turn aside from the work the Master sends,
Yet I have longed for a pause in the rush and whirl of time,
Longed for silence to fall instead of its merriest chime.

Longed for a hush to group the harmonies of thought,
Round each melodious strain that the harp of life hath caught,
And time for the fitful breeze Æolian chords to bring,
Waking the music that slept, mute in the tensionless string.

Longed for a calm to let the circles die away
That tremble over the heart, breaking the heavenly ray,
And to leave its wavering mirror true to the star above,
Brightened and stilled to its depths with the quiet of "perfect love."

Longed for a sabbath of life, a time of renewing of youth,
For a full-orbed leisure to shine on the fountains of holy truth,
And to fill my chalice anew with its waters fresh and sweet,
While resting in silent love at the Master's glorious feet.

There are songs that can only flow in the loveliest shades of night,
There are flowers that can not grow in a blaze of tropical light;
There are crystals that can not form till the vessel be cooled and stilled,
Crystal and flower and song, given as God hath willed.

There is work that can not be done in the swell of a hurrying tide,
But my hand is not on the helm to turn the bark aside,
Yet I cast a longing eye on the hidden and waveless pool,
Under the shadowing rock, currentless, clear, and cool.

Well, I will wait in the crowd till he shall call me apart,
'Till the silence fall which shall waken the music of mind and heart,
Patiently wait till he give me the work of my choice,
Blending the song of life with the thrill of the Master's voice.

FRANCES RIDLEY HAVERGAL.

SOME ITEMS FROM DR. MILLER.

VENTILATION OF CELLAR.

HERETOFORE I packed my bees in the cellar, with the hives piled up solid, like so many bricks. Of course, I could get at the outside ones only, and they received very little attention the winter through, having only the doors and window open on warm nights. A sub-ventilation pipe of 4-inch bore runs under ground a distance of 100 feet, and enters the bottom of the cellar, thus supplying ventilation when the weather is cold. Some may not know that this pipe under ground does not supply ventilation at all times alike. Suppose a warm spell comes, and the temperature outside is about the same as in the cellar, ventilation ceases, and I have known times when the temperature outside was warmer than that of the cellar, when the flame of a lighted match showed the current of air actually to be flowing *out* of the pipe, instead of *in*. At such times I open the window and doors in the evening, and close them next day, sometimes in the morning, sometimes not till noon, for I find if they are well supplied with fresh air the matter of darkness is not essential. Perhaps, however, if they were too warm they would not stand the light. I think if my sub-ventilation pipe were 200 feet in length, and 6 inches in diameter it would be better. Jan. 5 the mercury outside went down to 37° below zero. The next day the air came into the cellar, through the pipe, at 37 above zero, and that is the lowest it has been this winter. If I did not put a fire in the cellar, I think the temperature of the cellar would be all the time, during cold weather, nearly the same as that of the air coming in through the pipe.

But I intended, when I commenced, to tell how I was differing this winter in taking care of my bees.

CLEANING OUT DEAD BEES IN WINTER.

Last spring, on taking the bees out of the cellar, the entrances of many of the hives were badly choked up with dead bees; some of them so badly that not a single bee could get out. I thought it might be a good plan to try to avoid this in future; so last fall, when the bees were put in the cellar, two rows of hives were placed back to back (they were piled 5 high), then an alley-way left, then another two rows back to back, and so on. This leaves it so that I can get at the entrance of each hive in the cellar. I have twice already cleaned out the dead bees from the entrance of each hive, and for several inches back in the hive where possible; for in many of them the cluster of live bees extends down to the bottom-board, and in some of them clear out to the entrance. There is a great difference in the number of dead bees in different hives. In some of them, during the first two months of their imprisonment, I have found two or three pints of dead bees; in others, not as many tablespoonfuls. I also sweep up the alley-ways, and I can not help but think the bees will be the better off to be free from the smell of so many decaying bodies of their dead companions.

FIRE IN BEE-CELLAR.

For several years I have had a stove in the cellar, and have occasionally put a slow fire in it when the cellar appeared damp or very cold. Formerly when I put in a fire, a great hubbub was raised among the bees, which subsided after a time, and then they were quieter than before the fire was put in. If I put in a fire in the evening, and raised the temperature a few degrees, in the morning I found the bees all quiet, and at first attributed it to their being warmer; but the thermometer would show the same temperature in the morning as before the fire was put in, so they could not be quieter because warmer. Was it because the fire had increased the ventilation, and given them purer air, or did they take the chance while it was warmer to turn over in bed and settle down more comfortably? Much the same thing occurred if I opened window and doors on warm nights in spring. The bees made such a roaring that at first I was quite alarmed, for fear many were leaving their hives; but in the morning all was very quiet; and if the bright rays of the sun shone directly into the cellar, and on the hives, not a bee stirred. This winter I kept the cellar open nearly every night, and sometimes days, until the very cold weather came in the middle of December, and there was no excitement noticeable among the bees on opening the cellar. Since the cold weather I have put in fire nearly every day, and it is so dry that the ground of the floor is dusty on being swept. On putting in fire now, the bees pay no attention to it, although a thermometer laid on a hive nearest the stove shows a rise of 15 degrees. The noticeable feature in the case is, that whereas in former years the admission of fresh air, or heating by a fire, roused up the bees, this winter it has no such effect. I do not know of any thing to make the difference, unless it be that the air is never allowed to become foul this winter, no disagreeable odor ever being present on entering the cellar. At present 201 colonies are in this cellar, the remaining 50 being in a new cellar, which is damp and not so well ventilated.

DR. C. C. MILLER, 172-251.

Marengo, McHenry Co., Ill., Feb. 12, 1884.

* * *

OBSERVATIONS

ABOUT BASSWOOD BARRELS AND HYBRID HONEY.

As I have not bothered you for almost two years, I thought I would give you a "brief" of my observation during that time.

BASSWOOD BARRELS.

I have observed that we have something better in the line of packages for extracted honey than you advise in A B C. It is a neat basswood keg (or barrel, as you choose); it needs no waxing, and will hold *every time*. I first saw it in use to hold sorghum syrup. Its merits are simply these: Neat, light, tight, and sweet; no one will deny but that the acid in oak packages imparts a flavor that more or less damages extracted honey. It is also cheap. I had one hundred 32-gallon barrels offered me for $100. I know you will object to it on the ground that it will use up all the basswood timber; but if you could see this *basswood country* you would think it would be a while before it would be gone; and I tell you, a few thousand pounds of pure basswood honey put up in nice white basswood kegs that *won't leak a drop* is pleasant to the sight.

EXTRACTED HONEY.

I have observed that extracted honey has made great strides in the past two years toward the tables of the working class; and 'tis here it must find its way, and in competition with all the cheap articles of food, before honey will become a staple article. A cheap but pure article of extracted honey need never interfere with the production of fancy comb honey any more than all the cheap articles of food and clothing interfere with the more fancy articles. There will always be a demand for both.

ADVANTAGE OF EXPERIENCE.

I have observed that profitable bee-keeping is born of study and experience; for six years ago I could not make bees pay in a good season, while this season I have made 43 colonies produce 5000 lbs. of honey, and it is conceded by all to have been a poor season; but I am well satisfied with the result.

HYBRIDS AND HONEY.

I have hesitated some about writing this observation, for fear it might be one of those truths that should not be told, and I can see the slowly passing finger of scorn pointed at me by hundreds of our fancy breeders for saying it, that the best general-purpose bee is the hybrid. If I could have my bees what I wish, I would say, increase their tendency to longevity; increase their energy, and give greater wing power; and if the hybrid (produced close up to the importation) of the Italian queen by drones of the German brown bee does not have these qualities, then I don't believe you can find them.

I had ten of these queens this season that gave me 2200 lbs. of honey; the one on the scales gave 268 lbs. of surplus; on the 22d of July they gathered 18 lbs. of basswood honey after 2 P. M. I had 33 colonies of blacks and Italians in the same apiary that gave only 2800 lbs. of surplus. The hybrids in question seemed to live nearly all summer, and their colonies became immense. The queens, of course, were no more prolific than my other Italians; but I believe it is a fact, these American-Italians have greater wing power to bear their load against the wind than either race in its purity.

I have been *forced* to these conclusions, for no man ever thought more of his gentle bees with their golden rings than I; but I have found out that those pestiferous hybrids wear only one and two rings; but they are 18 karat fine. I wish 'twere not so, for I do not like them; but while they fill my barrels with honey and my pockets with money, I will put up with their dirty complexions and dyspeptic dispositions. I have at present 120 colonies under my control, 80 of which are my own. They have wintered thus far without the loss of one, and are in fine condition, all in cellars.

A GOOD CELLAR FOR WISCONSIN.

I was going to close, but will supplement another observation, and that is, that a well-arranged cellar "gets away" with any other system of wintering, anywhere on the 45th parallel. M. A. GILL.

Viola, Rich. Co., Wis., Feb., 1884.

HALF-HEARTEDNESS, ETC.

IS IT ONLY GOOD PEOPLE WHO ARE WHOLE-HEARTED?

FRIEND ROOT:—Some people have a queer way of thinking over things that they see in print, and have to ventilate once in a while. "That is I." I have thought about that piece which you call "Half-heartedness," and as I have noticed lots of people that way, and some of them good people too, and other people just the reverse, and some of them you would call very wicked, I have come to the conclusion that the organs of "order" were omitted in their make-up to a very large extent, and they need to go through a course of training to give strength to that faculty, and it makes very little difference with many whether they are converted or not, as it does not change their organization.

Friend J., you are right about the matter of half-heartedness. There are half-hearted good people, and half-hearted bad people, as well as the reverse. Energy does not always belong to godliness, although godliness should give us energy. I have often mused, and mused sadly, too, on this fact that you so clearly bring out. You say that conversion does not change a man's organization, but that he needs to go through a course of training to strengthen that faculty. You are correct there too; but when you say that it makes little difference whether they are converted or not, I should want to put in a word.

Conversion ought to be a starting-point of the training you have just alluded to. If a man should say before his friends, that he had given the matter much thought and study, and had deliberately decided that he would not have a weedy garden any longer, he might be likened to a man who is at the point of conversion. He has decided to make a change of purpose, or has made a change of purpose. Now, if this change is not lasting, it does not amount to much. If he does not roll up his sleeves and pitch right into that garden, and stick to it, his friends would be very likely to decide there was no change in the man—nothing but talk. A man may change his purpose in a minute; but to change *himself* is a matter that takes long weary months and years.

WHAT CONSTITUTES A FRAUD?

Another thing on my mind is the reference to Mrs. Cotton, as charging more for her fixtures than what you call regular dealers, and that she has a patent on them. Now, people need not buy if they do not like her prices; and about patents, I notice you tell us that the publishers of the "Story of the Bible" oblige you to sell the book for more than what you had deemed a fair profit, and I can not see any more harm in a patent bee-hive than a patent Bible, and some have expressed themselves as well pleased with her goods. DANIEL H. JOHNSON.

Danielsonville, Conn., Feb. 11, 1884.

You say that people need not buy things at high prices, if they do not want to. Suppose a man should get some eggs at your country store, and recommend them so highly, as being the product of a new breed of fowls, that he sells them all over the neighborhood for a dollar apiece. You might claim that people need not buy, if they don't like the price, and it is true too; but for all that, what does the world generally think of men who do such things? I believe they call them frauds. Mrs. Cotton gets $3.00, as I have explained on another page, for what is printed on one single sheet of paper, or a leaf of paper, if you choose. She gets it because she claims to have something new in the way of bee-hives, and vastly superior to any thing in common use; whereas all intelligent bee-keepers admit, that her special method is not new, nor unknown. Is it right or is it wrong for her to take people's money in this way? If the price she charges for this leaflet were 10 or even 25 cents, probably no one would complain, even if he found that hives made in the same way were described in books on bee culture. The point in question, you see, is the price she charges, and the amount of information she gives. Some little time ago, friend Alley claimed to have a valuable secret in regard to rearing queens. There was talk of having it patented, and selling the process for a dollar or such a matter. I urged vehemently that he put it in the form of a book, and add enough other matter to it to make a fair-sized book, such as is usually sold for a dollar. He has done so, and nobody complains who buys the book. I think, too, he is making a good deal more money than he would have done had he charged $1.00 for the contents of a leaf or two, or perhaps for a little pamphlet. In our November number, friend Fletcher wrote pretty vehemently in regard to selling recipes for preserving eggs. In the December number of the *Bee-keepers' Magazine*, friend Quinby, of White Plains, N. Y., takes GLEANINGS to task for what is said there, and declares that he can preserve eggs six months so that it would be hard to tell the difference between them and eggs a week old. Now, with such authority as friend Quinby, we shall have to conclude that eggs may be preserved, and that profitably, with a reasonable degree of freshness. He adds, that the process is not and never has been for sale. We shall have to conclude, then, one of two things: That he is going to give the process to the public, or else withhold it. If it is valuable, what would be the proper thing to do with it? What would mankind in general deem a fair way of disposing of such a recipe, if the owner wanted to dispose of it? If it could all be printed on a single leaf of a book, it seems to me it ought to be sold for something like 10 or 25 cents, but the latter price usually pays for a pretty fair little book, on almost any of our industries. If that would not pay the owner of the secret for spending his time with it, I would suggest he write a nice little book on the care of eggs, and perhaps something about poultry-breeding; and if the secret were a valuable one, the book would probably have a large sale, and we all know that a good book is a good thing to have.

You might say that I am dictating in this matter. Well, the matter has been pretty well discussed, and most people have made up their minds in regard to selling recipes. Did you ever pay a dollar or five dollars for something printed on a single bit of paper, say the size of a common book-leaf? If so, how did it turn out, and what do you think of the man who sold it to you? Is valuable information sold in that way on any subject whatever? or is it in accordance with the spirit of this day and age, when knowledge on any subject is so freely given and as freely received? Now just a word about the Story of the Bible:

I have never meant to dictate what people ought to charge for their own property; in fact, I believe I have always stopped selling any thing at a low price when I found the manufacturer objected to my so doing. I have protested against selling recipes, or charging great prices for a small amount of information, in the way I have told you above. But in these cases the prices were so extravagant, it seemed to me they approached nearly to the character of a fraud, if not quite a fraud. The Story of the Bible is a book of 700 pages and 274 illustrations, and would ordinarily be considered very low at a dollar. The publisher gave me a very low rate to jobbers, because I used so many of them. But he felt hurt when he found I was selling them at 75 cents singly. He did not say I should not sell them so, but he said he should be very sorry to have me continue doing it, and gave good reasons. Is the case parallel with that of Mrs. Cotton's? It is true, quite a good many have expressed themselves as pleased with Mrs. Cotton's method of management, and I have taken pains to publish every such expression I could find, just as I have been pleased to publish reports from those who had tried Doolittle's method, or friend Heddon's method, with lots of others. Doolittle sells a little pamphlet, telling how his hives are made and used, for 10 cents, if I am correct. In Mrs. Cotton's case, you pay $1.00 for a rather small-sized book, and $8.00 for a sample hive, or $3.00 for directions for making it. Perhaps I should add, that I am not posted in the matter of preserving eggs, and am glad to be corrected when I make mistakes; but I am pretty well posted in the matter of buying recipes, for I have tried buying them with the view of getting something valuable for GLEANINGS; and ever since the time when I was a boy, when I gave my watch, and all the money I could scrape up, for a recipe for making a wonderful burning-fluid, up to the present day, I have never seen a recipe so sold, of any value; in fact, the more dollars I have paid for a recipe, the more worthless it proved on trial.

At one of our bee conventions, it was said a man had a secret for curing foul brood; that he would do it for $5.00 or such a matter, but wouldn't tell it to anybody. Dr. C. C. Miller and Prof. Cook both declared that their invariable experience had been in horticulture and other industries that men who made such claims were ignorant or bad, and that no valuable information ever came to light in that shape. This seemed to be the sense of the convention; and, dear friends, is it not the sense of this enlightened age of the world.

The "Smilery."

THE Florida *Dispatch* is guilty of the following:—

WHY PEOPLE SHOULD EAT HONEY.

Thousands and tens of thousands of children are dying all around us, who, because their ever-developing nature demands sweetness, crave and eagerly demolish the adulterated "candies" and "syrup" of modern times. If these could be fed on honey instead, they would develop and grow up into healthy men and women.

Children would rather eat bread and honey than bread and butter; one pound of honey will reach as far as two pounds of butter, and has, besides, the advantage of being far more healthful and pleasant-tasted, and always remains good, while butter soon becomes rancid, and often produces cramp in the stomach, eruptions, sourness, vomiting, and diarrhœa. Pure honey should always be freely used in every family. Honey eaten upon wheat bread is very beneficial to health.

The use of honey instead of sugar for almost every kind of cooking is as pleasant for the palate as it is healthful for the stomach. In preparing blackberry, raspberry, or strawberry shortcake, it is infinitely superior.

It is a common expression, that honey is a luxury, having nothing to do with the life-giving principle. This is an error—honey is food in one of its most concentrated forms. True, it does not add so much to the growth of muscles as does beefsteak, but it does impart other properties no less necessary to health, and vigorous physical and intellectual action. It gives warmth to the system, arouses nervous energy, and gives vigor to all the vital functions. To the laborer it gives strength—to the business man mental force. Its effects are not like ordinary stimulants, such as spirits, etc., but it produces a healthy action, the results of which are pleasing and permanent—a sweet disposition and a bright intellect.

If it is not all true, it is a good deal true; and besides, it is very pleasant reading for bee-keepers. If the last paragraph does not provoke a smile on your face, I am inclined to think that you do not smile very often. By the way, I want to add that honey *is* food for me, and a pretty good kind of food also; especially when good bread and butter are alongside, and a good-sized pitcher of milk and a *large* goblet in immediate proximity.

Heads of Grain,
From Different Fields.

SHALL WE TAKE THEM OUT OF THE CELLAR, AND PUT THEM BACK AGAIN?

I HERE send my report for 1883. Started in the spring with 15 colonies; increased to 35, and got 937 lbs. extracted, and 286 lbs. box honey (in sections). I sold my honey at 20 cts. per box, and 12½ cts. per lb. for extracted; that is what I retailed it at; to the stores, 15 to 17 cts. for boxes, and 10 for extracted. I sold honey to the amount of $123, and have about 100 lbs. to sell. Besides this, we used about 275 lbs. in a year. I wintered my bees in the cellar last winter; put them in Nov. 15, 1882, and set them out on the 5th of April, 1883. I lost 4 in wintering; three had the dysentery. All were bad. I think if I had carried them out and let them fly in February or the first of March, I might have saved them all. When I set them out in the spring, the first day flying cured them all of dysentery, and I had no dwindling. I carried my bees all into the cellar November 12, and they are all right yet. A few had a little dysentery. Do you think it best to give them a flight, when it gets warm enough, and carry them back into the cellar, or set them in until I can leave them out? DAVID K. KNOLL.

Salamonia, Ind., Feb. 14, 1884.

Friend K., this is one of the unsettled questions. I presume they would sometimes be better if left out, and sometimes better if left in. The trouble is, to guess what the weather will be. If you could get them out so as to have them have a thorough cleansing flight when the weather is warm, and no high winds, and then put them back until the cold storms and blustering windy days were past, it would probably be an advantage. But it is so hard to hit it just right, I believe most of the friends keep them in as long as they can, and not have them suffer, and when they are put out, leave them there.

HOW MUCH MONEY CAN A MAN MAKE WITH TEN COLONIES?

How much comb honey, or extracted either, can a bee-keeper expect (except one young swarm each year) from one good strong colony in a 10-frame Langstroth hive, one year with another, on an average, for five years, where there is an abundance of white clover and basswood bloom? Second: Can nucleus swarms be formed from young swarms after they have their hives filled with brood and honey, without injuring them? Third: Will it do to hive young swarms on combs where bees have died from dysentery? C. W. VANHOUTEN.

Smithfield, Ill., Feb. 1, 1884.

An inexperienced contemplater I am, and wish to have your advice on going into the bee business. If I am successful, what will be my profit on ten colonies of bees the first year, the second, and third? Can I make it a profitable business by following your instructions? I have 7 colonies of bees, and can get some more. J. H. TITUS.

Adams, Pa., Jan. 31, 1884.

I have had numbers of letters like the above, and those who accuse us of giving only the bright side of bee culture would perhaps expect me to give an encouraging reply. Now, friend T., without knowing any thing about you or your surroundings, I could not even guess what you would make with ten colonies. You may lose $50.00 in a single season, besides wasting your time; and then, again, you might do nicely. Bees are very uncertain property. I might, for an illustration say, "How much money would a man be likely to make from an acre of strawberries?" But the strawberries would probably be more sure of giving some kind of return than the bees would. I really do not know how I could make any kind of an answer; but I could tell you this: That you might look over the reports from those who started with a similar number, and see what they did. But even then you would perhaps find reports only from the successful ones. Such questions can not be answered, as I see it. Great numbers *have* made a success of it by the instructions in the A B C.

SHALL FARMERS KEEP BEES?

The farmer can, with a few colonies of bees, raise enough honey to supply his own family, and have a surplus to sell, which will more than pay the expenses of his apiary. Farmers, as a rule, do not buy honey; they either raise it or do without—at least, this is the case in my neighborhood.

There is also another feature in bee culture which should by no means be overlooked; that is, the amount of knowledge one may obtain by carefully studying the natural history of the honey-bee, which will tend to elevate our thoughts to the Creator of all things, and make us exclaim, "Why was such a small insect made, with such a mysterious nature?"

As I keep bees in a small way in connection with farming, I will give you an outline of what I have done since 1877:

1877.		1880.	
Total receipts	$15 85	Total receipts	$54 25
" expenses	5 70	Expenses	12 40
Net	$10 15	Net	$41 85
1878.		1881.	
Receipts	$23 45	Receipts	$40 40
Expensrs	2 95	Expenses	11 25
Net	$20 50	Net	$29 15
1879.		1883.	
Receipts	$24 50	Receipts	$81 60
Expenses	7 35	Expenses	17 40
Net	$17 15	Net	$64 20

In 1882 my net profit was $60.90. This does not include what honey was consumed by a large family. A. T. MCILWAIN.

Abbeville C. H., S. C., Feb. 13, 1884.

FLORIDA; HOW OUR FRIEND ILA MICHENER LIKES IT.

I have just returned from a visit to Florida. I found the State just about as represented—a great deal of wet land, and a large amount of beautiful high, dry, rolling land, suitable for orange-growing. The climate is delightful. All the time we were there it was like one continued Indian-summer day, the most beautiful you ever saw. Orange culture is very profitable. But take away the orange and the glorious climate, and there would not be left any thing very delightful in Florida. I took with me a 4-frame nucleus for experiment. I released them at Brooksville, Hernando Co., and that same day they were gathering pollen. But I can not see where they are going to gather any large amount of honey. The friend I left them with will report. ILA MICHENER.

Low Banks, Ont., Can., Feb. 11, 1884.

A WORD IN FAVOR OF SEPARATORS.

I can't see that tin separators hinder, for last season I filled their hives, the hives of eight swarms, with comb, and left them there till fall. They did not fill every comb, for they had a few more than they needed, and those that I worked for comb honey did as well. One swarm put more honey in pound boxes than any one of the eight did in their combs. They won't work in the chaff hive with ten frames below the sections, for they have too much room below; that is, with a good many swarms you want to put wide frames below; they won't work in the outside boxes at the top. The frames ought to go the same way at the top as the bottom.

FUMIGATING COMB HONEY WITH SULPHUR.

I should like to ask Doolittle one question: Does his comb honey taste of sulphur? We sulphured some, and it spoiled the flavor of the honey, and it was not quite strong enough to kill all the moth.

Suffield, O., Feb. 12, 1884. LEVI FAYLOR.

Friend F., I am glad to have your opinion that separators do not hinder the production of comb honey, but I am inclined to think it does make a difference, after all. Were not those colonies that had plenty of empty combs a little lazy, or was not their queen a little behind the one that had one-pound sections? I have myself sometimes thought that when bees got real animated (if that is the proper word to use), in filling one-pound sections they would do more work than some others that had so many empty combs they had no room or chance to build any.—I do not think the sulphur would give the honey a taste, unless you used too much of it. If I am correct, friend Doolittle has put in a caution in regard to this.—I have never been able to discover that it makes any difference whether the upper frames run parallel with or at right angles to the frames below.

ABSCONDING BEES, AND FIXING A LOCATION BEFORE THEY SWARM.

Last summer, just before dark, I took notice of a certain strain of bees. They came in very tired when there was no honey. What they were doing, was a mystery to me. Just one week after this, a neighbor came before breakfast with a wagon, salt-barrel, boiler, and pans, and wanted me to help him cut a bee-tree. We went and looked at the tree. The bees were working at three holes in the tree, and he asked me if I did not think it was a large swarm. I told him I thought it was, but it looked to me as if they were cleaning house, and it would be better not to cut the tree until evening, to save the bees. When we cut it down there was only one bee left in the tree. When the tree was cut down, I knew they were my bees; he thought I ought to give him a swarm of bees, for he had saved me one by cutting the tree. I did not lose any swarms last summer, that I know of.

Columbia, Mich. ALMON ACHENBACK.

AN APOLOGY.

I do hereby wish to make the statement that I was wrong in signing the name Theo. O. Peet to the article which you published in GLEANINGS concerning the card which was written to me, which was signed Col. & Ulery. It was written and signed in "signature" style, and any one at a glance would make it out as I did. I would have made this statement sooner, but I was positive that I was right, and I could not find the card at the time; but recently I chanced to get hold of it, while looking over a heap of postal cards. I am sorry for having made such a blunder, and humbly beg pardon. A word in regard to the egg preservatives. I did not mean that they are a complete failure; I simply meant the costly receipts and impositions. J. T. FLETCHER.

West Monterey, Pa., Feb. 11, 1884.

Friend F., I am glad to get your apology; but I must say that it is a rather serious matter, saying a certain document, or even postal card, was signed by a man who never saw it, and never had any thing to do with it. The fact that Theo. O. Peet did at one time have charge of the business, and was in the habit of signing postals and letters, might make it easier for you to make the mistake. I know their signatures were very brief and imperfect, and I was tempted to think sometimes that they were purposely made blind. In fact, orders came to us without any signatures, and I was compelled to write back and ask who was responsible for the goods ordered from this institution.

SWARMS THAT WE DON'T WANT TO KEEP OVER WINTER; WHAT SHALL WE DO WITH THEM?

Could we take away the queen in August, and keep queen-cells cut out so that they could not raise another, or would it be best to cage the queen and leave her in the hive, but prevent brood-rearing? or would either pay where we care more for honey than we do for young bees? J. P. DUNLAP.

Lone Star, Neb., Feb. 14, 1884.

Friend D., my plan would be to sell the queens for something. You know we now have a department for those who have hybrid or black queens that they will furnish to others for accommodation, and we make no charge for notices in this department. Well, after you have sold the bees, take them and the brood to strengthen other colonies, till you get your colonies very strong. This will prevent the production of brood, and you know prevention is always better than cure.

MAMMOTH RED CLOVER, AND SOMETHING ABOUT ALSIKE FOR HAY.

Allow me to say a discouraging word about mammoth red clover for honey. On an average, my bees have had at least 200 acres within reach every year, and as yet have not given one pound of surplus from it; and on only one occasion any in the body of the hive — that was in 1881. I have raised it on my farm for ten years, and am well acquainted with all its habits, and can say safely, I would rather have one ton of my alsike hay than four times the amount of mammoth clover.

For the improvement of land it has no superior; but if any man sows it purposely for honey, I fear he will find himself mistaken in its qualities.

Thorn Hill, N. Y., Feb. 11. C. M. GOODSPEED.

Well, friend G., you give us a heavy testimonial in favor of alsike for hay, even if you don't speak so well for mammoth. Speaking of alsike, I notice it is now regularly quoted in our market reports, and it seems to have become a staple seed. From present indications, I presume the price will this year run up to $15.00 as it did last. What are the farmers about, that they don't raise more aliske, with such prices as these offered? Our honey farm is at present seeded to alsike, and we expect to get a splendid bloom this coming season.

UPWARD VENTILATION, ETC.

Please let me speak my piece. I am an A B C scholar, and enjoy my studies very much. I went into winter quarters with 7 good swarms — 4 in chaff hives, and 3 in cellar. I examined those out of doors yesterday, and found them in fine condition. One of my hives in the cellar had no upward ventilation; I noticed the bees were spotting the entrance, and supposed, of course, they were dying with dysentery. I tried your suggestion on page 69, A B C, by taking the hive into a warm room, and fixing a square frame covered with thin cloth over it, and letting the bees out. They came out of the hive, but did not empty themselves. The hives right by the side of this one are all right. They have good upward ventilation.

Last fall I noticed that a strong colony of Italians were killing off a rather peculiar-looking bee. The abdomen was small and black and glossy. What were they? and why did the other bees kill them?

TO PREVENT BEES BUILDING COMBS BETWEEN THE UPPER AND LOWER FRAMES.

Paint the lower side of the upper frame, and the top side of the lower frame. J. F. ORWICH.

Ionia, Mich., Feb. 9, 1884.

Friend O., I think that those small and black glossy-looking bees were some affected by the disease I have mentioned in the A B C book, toward the close of the article, page 63. I believe it is well known that painting the frames will prevent the trouble you mention, or, at least, to a certain extent. The only objection that I know of is the trouble and expense of doing it.

SEPARATORS OR NO SEPARATORS.

This is one of the leading questions of the day, and perhaps one that some would like to hear about, as much as any thing. I have had some experience with sections without separators. I have tested many things as soon as I heard of their invention, and some of my own invention that pertain to bee culture, and the most profitable way to get money from bees. During the year 1877 I had something over 1500 5x6 sections in use without separators; some were filled full of foundation, others partially, and others with natural-comb starters. I used four different kinds of boxes that season. I have experimented with boxes holding 80, 40, 30, 25, and down to 2-lb. sections; and when I got there I stopped, and I do not think I shall go below this size before next season opens, and then *slow*.

There is no doubt but that better results can be obtained in regard to straightness, with a 1-lb. section, than with a 2-lb. section, without separators. But I would not use either without separators. It is true, beyond a question, we can get more honey without separators than with, for we approach nearer a large box; and the nearer to a box of the capacity of the surplus of the colony we get, the more surplus.

But, there is another side to the question: I find the net profit is on the side of separators, to say nothing of the disgust of bulged combs, leaky packages with many combs bruised, and more mutilated that have to be extracted. The grocerymen growl about flies, ants, and careless clerks taking off the profit. The middle men complain, vow, protest, and curse the poor bee-keeper for educating the consumer to small unglassed sections, and tell us that where a man buys a 2-lb., he would, three times out of five, have bought a 6 or 8 lb. box, if the sections had never been introduced, and they could handle more honey in a season. The groceryman would buy as in former times, and more honey be consumed, though perhaps by a less number of persons. It is not the largest amount that we are after at the present day, but that in such shape that it will bring the best price and a ready market. Go cautious, if you are a beginner, and have had but a little experience; the older ones, as a rule, will take care of themselves. WM. H. BALCH.

Oran, N. Y., Feb., 1884.

A CHEAP AND EFFICIENT PASTE FOR PUTTING LABELS ON TIN OR ANY OTHER SUBSTANCE.

I herewith send you directions for making a paste, which I value very highly for fastening paper or cloth to tin, etc. I knew of a New York firm that gave another considerable for this recipe. I wish you would carefully make paste by this formula; and if you find it worth publishing, do so.

I have often seen the labels on extracted honey, canned goods, etc., broken by a very light pressure, thereby destroying the neat appearance of the goods. This is often, I think, the result of using a paste that does not adhere firmly to tin. If a paste is made according to the directions I herewith give, I think it will be found worth the extra trouble in making.

Make a very thin batter with flour and cold water (not more than half as thick as for pancakes), taking care to rub out all the lumps. A pint of this batter is enough to make a four-quart pan as nearly full as will work conveniently. Set this on a moderately hot stove, and at the same instant pour from a teakettle *boiling* hot water till three-fourths full, stirring rapidly at the same time, to prevent burning. I hold the dish with one hand and stir, or, rather, *scrape*, the paste with a putty-knife with the other hand, while another person pours in the water. If great care is not taken, the paste will burn, or become lumpy. Cook 5 minutes. So far, this paste is simply a good paste for papering walls. Now add about one-eighth as much of the cheapest, darkest-colored Porto Rico molasses that can be got, and cook for 10 minutes longer. It may be that any cheap molasses will answer, but I was particularly cautioned to use none that was adulterated, so I have never tried any other than the above named. I get it at a grocery that has a large low-class trade. If carefully made, the paste is now ready for use, rubbing out smooth and free from lumps. If lumpy, squeeze through cheese-cloth or a thin linen towel. If too thick, I thin with hot water. This paste, if made with the right kind of molasses, will be found to adhere firmly to tin, glass, or any other substance used for packages for honey. ELLIS MEAKER.

Owasco, N. Y., Feb. 6, 1884.

HOW SHALL WE PREVENT INCREASE OF COLONIES?

How shall we keep our bees together, and thus control the business? We don't want to keep making hives, to accommodate additional swarms after we have enough for the territory. Friend Root, I think this a very important point, to decide the best plan for keeping our bees together. Will it do to move the bees and brood that remain in the parent hive, in with the swarm just cast? I should like to hear about this question, before swarming-time.

New Providence, Ia. A. LINDLEY.

I think your best way, friend L., is to sell your surplus stock. Selling bees is generally found to be as profitable as selling honey, and a bee-keeper can not very well get along without it, after a certain limit.—Putting the brood in with the swarm is the plan recommended by our old friend Adam Grimm, and it works nicely, provided the swarm does not get a swarming mania, and swarm so much the quicker for having such an increase in numbers.

LAZY BEES.

With your permission I will relate my experience in battling with the world, the flesh, and the bees. I didn't say honey-bees, for my bees have had very little to do with honey as yet. I struck in last spring with five colonies of black bees in old box hives. They have now increased to 18, six of which I put into home-made Quinby hives, and the rest into box hives and nail-kegs. The kegs are full, and the frames are partly full of comb, built crosswise. I have taken about 5 lbs. of honey in sections.

Some of the swarms have hung out of the hives all summer, doing nothing with boxes in the hives. We put two small swarms together; they killed or lost both queens, and are now a mere handful, with as many worms as bees. What should I have done? Basswood, white clover, goldenrod, motherwort, and catnip, all grow within bee distance of us. What makes my bees so lazy? M. E. G.

Ogden, Mon. Co., N. Y., Aug. 20, 1883.

Friend G., I really do not know what makes your bees so lazy, unless it is those colonies with the combs built crosswise. Give them some nice new hives with one-pound sections, and may be you can raise a little enthusiasm in their little heads or hearts to get up and "dust," and do something instead of hanging outside.

ABSCONDING WITHOUT CLUSTERING.

June 10, 1882, I stood near a hive and heard the piping of the queen in said hive. Presently, out rushed a very large swarm, and started immediately, a little east of north; they rose very high, as they had to pass over a grove of Lombardy poplars about 20 rods distant; after passing that barrier they lowered to the usual height. There being a large lake about 70 rods from the apiary, they came quite low, near the margin of the lake. There being a gravel walk, I ran ahead and met them with handful after handful. They did not seem to like that kind of treatment, and turned south-east and went to an island in the south part of the lake, and clustered in the top of a very tall second-growth white-oak. I got an ax and hive, my son accompanying me. We went and cut the tree, my son taking the boat, I staying on the island. The bees flew about half an hour over that part of the island, then over the lake several times, and alighted on a low limb where we soon had them in the hive and apiary, where they remained satisfied.

About ten days later I hived a large swarm. Before they all got in, another swarm came out close by, and went in with them. They remained about half an hour, when they all came out and separated, as near as I can tell, about equally; the one clustering, the other going for parts unknown.

The first of July following, another swarm absconded without clustering. In every case I was there and saw them come out of the hive. The last was a second swarm too, and a large one. I have kept bees a number of years, of late quite extensively. These are the only cases of absconding I have any personal knowledge of; but there was no mistaking them. W. K. VANSYCKLE.

Drayton Plains, Oakland Co., Mich., Feb. 4, 1884.

FROM 15 TO 40, AND 600 LBS. OF HONEY.

I commenced the season with 15 stands, all in good condition, strong enough to swarm in April; but I prevented it by giving plenty of room. They commenced swarming the 5th of June, and they increased from 15 to 40 stands, with plenty of stores for winter, all alive at the present date, and in good condition. I took over 600 lbs. of comb honey—500 in one and two lb. sections; did not extract any.

NO SEPARATORS.

What I wish to notice is this: That in the 500 lbs. in sections, no separators were used—nothing but half-inch strips of worker fdn. for starters; the sections were 1⅞ inches wide, as you make them. Result, every comb was built straight, and in no case was there a comb built between. My reason in the first place is, that bees delight to work on nice yellow fdn., and if kept supplied with sections and starters, will have no inclination to work on any thing else.

LARGE ENTRANCES TO THE SECTIONS.

I make my sections with ¼ inch space, so that when two are placed together it leaves ½ inch opening, giving them no chance to build between, and at the same time making a nice-appearing comb, with the outer edges rounded. H. HOMRIGHONS.

Royalton, O., Feb. 18, 1884.

MRS. COTTON.

Mrs. Cotton, of West Gorham, Me., found out that I wanted to get some bees, and she sent me a big offer. I paid her $20.00 for a full colony. They came, and I put them on the stand, and when I came to examine the bees I don't think there was over a handful in the hive, and there was no queen with them; and it was but a short time before they were all dead. I was cheated out of $20.00 by Mrs. Cotton; but I shall try again. JAMES H. DUNLEVY.

Adrian, Mich., Feb., 1884.

I am sorry to hear such reports, friend D. I suppose, of course, you notified Mrs. Cotton of the condition in which the bees were received, although you do not say so. From the great number of similar reports from her customers, we can not help but conclude that she is not in the habit of making good the colonies that are received in such condition; and as she advertises quite extensively, inquiries are coming almost every day, as to whether we would advise purchasing of her. We have such inquiries about other supply dealers, as a matter of course; but all who now advertise, so far as I know, are reliable, and make good all dissatisfaction. If Mrs. Cotton proposes to do this, I will cheerfully give space for her to say so.

MODERN SEPARATORS.

I notice complaint is made that wooden separators warp. Having used them many years, made of what is here called poplar, the tulip, or whitewood, of some sections, and liriodendron botanically, I find no trouble. I use them now as thin as 1-16 of an inch. If taken care of, and not left to the weather, they keep true and dry. They become slightly coated with wax by use. I should prefer them to tin, which I have used, if the latter were furnished without cost. J. W. PORTER.

Charlottesville, Va., Feb., 1884.

SPEAKING IN ANOTHER LANGUAGE THAN YOUR OWN.

I hurt offen of your bees. I would like tow no how you are fixt in bees. Pleas and write me about your price list of your books or hive boxes. I start over two years with bees, and I got plesner with them. And my address is in Reading postoffic.

Reading, Pa., Dec. 30, 1883. ERNST DRUSTE.

I wonder how many of the friends have tried telling something they wanted to tell, in a language foreign to their own. How quaint and odd the ideas sound! Here comes a little note from a friend who loves the bees; and although his words sound oddly and strangely to us, yet we know that it is a kind heart that prompts them. I am glad to know, my good friend, that you find pleasure in working with bees. But I do not believe there is one among us who could have told it much better than you have done, even if you are evidently not very familiar with our language.

THE CONTROLLABLE HIVE.

I have had some circulars sent to me, and I thought that they would make you smile if you could see some of them. I know that Mrs. Cotton would not send you one, so I will do so; but I think there must be much exaggeration in her circular; and if it is not in the circular, it is in the bees she sends out. I have one of her hives. I put a swarm of bees into it, and they did not do well. I transferred them in August, and put them in a chaff hive, and they did more work in a week than they did in six weeks in the Controllable hive. If I were to have my choice, give me a good half-breed. I began last spring with three swarms that I wintered. I now have 13 good strong colonies, and I took from the three, 100 lbs. of good comb honey, made in boxes. I have made up the 500 sections that you sent, and I broke only six of them, and I thought that was good.

Taunton, Mass., Jan. 28, 1884. E. W. STAPLES.

MRS. COTTON AND HER ADVERTISEMENT.

> HONEY BEES.
>
> THE NEW SYSTEM OF BEE-KEEPING.
>
> EVERY one who has a farm or garden can keep Bees on my plan with good profit. I have received one hundred dollars profit from sale of box honey from one hive of bees in one year. Address MRS. LIZZIE COTTON, West Gorham, Me.

I inclose an advertisement clipped from the Providence (R. I) *Daily Journal*. Is there no stopping the fraud? Now, it would be impossible to tell how many poor people, hoping to increase their income, have sent to Mrs. C., to their sorrow. The inclosed advertisement has appeared several times; she also had an advertisement in the *Journal* last year.

A. C. MILLER.

Barrington, Bristol Co., R. I., Feb. 14, 1884.

Friend M., I know that many are disappointed in sending to Mrs. Cotton, but there are others who have succeeded very well with her hive and instructions; in fact, I have aimed to give both sides of the matter through our columns. The point under discussion is, whether it is a fraud to charge $4.00 for a sheet of paper giving drawings and directions for making a hive, or not. I should call it a fraud, but others think differently. As the book which she includes with the $4.00 is sold for a dollar, the purchaser really pays $3.00 for one sheet of paper. It is well known that her process is nothing particularly different from what is already known and in use.

Blasted Hopes,

Or Letters from Those Who have Made Bee Culture a Failure.

I THINK I can give you a good report for Blasted Hopes, as mine have been blasted from the beginning. In 1876, I think, I bought a swarm of black bees in box hive; 1878 I bought 4 more of same description. I have bought lots of Italian queens, and raised more from pure stock; bought an 8 or 10 dollar imported queen of you, which was of no use to me, as queens raised from her were all poor things, no matter how raised or used. Her stock has never given more than a few pounds of honey, and was never very strong (and is now dead). But don't think I blame you for this. I have spent hundreds of dollars in different ways for my bees; have had as high as 35 swarms, but now have lost all but 7, and those left are in poor condition, and I guess will go before spring. I have never sold $1.00 worth of bees, and not honey enough to pay for a tenth of the sugar I have fed them. I have spent a very large part of my time on them, hoping to reap some reward after a while. I don't think my failure due to poor management, for I had hives running over, full of pure Italians of different strains, all through the honey season of each year, time and again. I have used every thing possible to aid the bees, but no honey, and I am convinced that the trouble, and the only trouble, is that this region does not produce any honey, and that even Doolittle, if placed here, would not raise 200 lbs. of heney per year. I am sick of keeping bees here for profit, and will sell my combs and fixings in spring. I am not robust, so I had hoped to make something from bees, but it has been the opposite, with a vengeance.

And now I will tell you something about my troubles in selling honey this fall, as you know I sent to you for labels, tumblers, etc. Well, I got some of the finest extracted honey from a friend in Vermont; also some from two bee-men in Ohio and Wisconsin. It was splendid pure honey. I put it up in 1-lb. tumblers, labeled it nicely, telling all about it, guaranteeing it to be pure and of superior quality, wrapped each tumbler in nice paper, and started out. I left a tumbler at each house, stating that I would call again in a few days. I sold for 22 cents in tumblers, and 18 cents loose. I worked hard for 6 or 8 weeks in trying to sell, but, *no;* people would not buy, do what I would. I lost none of the tumblers, which I left, but nobody seemed to want honey, and I don't believe would have taken any to speak of, even if sold at 10c. per tumbler, and this in lively towns of 8000 inhabitants, without competition either. I sold, perhaps, 200 or 300 lbs. in all in this way. I shipped 500 lbs. in kegs to Boston, after getting discouraged, and got 2c. less per lb. than I paid. I have 100 tumblers full on hand, and am likely to keep them, as nobody likes honey hereabouts.

Now, friend Root, tell me why I failed to sell, if you can. Comb honey did not sell any better. It is a mystery to me, as I had not the least doubt but that any thing so fine as this honey was would sell like fun.

F.

Worcester Co., Mass.

Friend F., I am inclined to think your worst trouble was, you had not built up a trade on extracted honey. Friend Hutchinson's piece in our last journal, it seems to me, covers the ground.

ONLY $15.00 PER POUND FOR HONEY.

Perhaps you would like my report for the last two years, but you would put it in Blasted Hopes. My hopes are as bright as ever, and the honey that I have taken from the bees has cost me but $15.00 per lb., and I can stand that, unless I have to take too many pounds. When you want something *not profits* from bee-keeping, let me know.

Pittston, Pa., Jan. 21, 1884. R. H. GRIFFITHS.

Why, friend G., your letter is a treasure for this department; but it seems to me that you ought not to be so happy and smiling about it. I suppose all that worries you is the fact that you may get too many lbs. of honey. Sad, isn't it? Don't you think you could figure that honey down so it would not cost more than about $14.75, if you tried hard?

Reports Encouraging.

FROM 5 TO 19, AND 1354 LBS. OF HONEY.

HERE is my report for the season of 1883: I have tried to raise bees for honey, but never got as much as I could eat till after I read the A B C, and took GLEANINGS, which is two years ago. I commenced last spring with five colonies, and increased to 19; bought 1, which made 20. I commenced to extract June 14, and got 155 lbs.; June 23, 190 lbs.; July 5, 202 lbs.; July 17, 181 lbs. Total extracted, 728 lbs. I commenced to get box honey the 15th of July, and closed up Sept. 26, taking the boxes as soon as capped, so as to have it white as snow. The total amount of box honey by weight was 626 lbs.; adding the extracted, 728 lbs., it makes a total of 1354 lbs. from six stocks in the spring. How is that? I have also 40 lbs. of unfinished sections to commence next year. The mercury was 34° below zero in January, and I lost only one colony. The rest are all right. I use the Simplicity hive and 4¼ x 4¼ sections, and get 10 cents per lb. for extracted honey, and 18 for comb. My bees are mostly Holy-Lands of I. R. Good's stock. ROBT. S. GIHERSON.

Roodhouse, Ill., Feb. 6, 1884.

FROM 8 TO 41, AND 300 LBS. OF HONEY.

I began last spring with 8 swarms; increased to 41, all in good shape, all by natural swarming, and got about 300 lbs. of honey; that is, comb and extracted all together. LOUIS WEINER.

Edwardsville, Ill., Jan. 15, 1884.

FROM 8 TO 14, AND HALF A TON OF HONEY.

I had eight swarms of bees last season, which gave me 1000 lbs. of box honey, and six new swarms. I think I can afford to take GLEANINGS this year.

Geddes, N. Y., Jan. 22, 1884. M. C. DARROW.

FROM 2 TO 8, AND 300 LBS. SURPLUS.

I started in the spring of 1883 with two colonies; increased, during the summer, to 8. At this writing they are all right yet. Got about 300 lbs. surplus honey. We are using the chaff hive. S. M. SMITH.

Campbell, Mich., Feb. 4, 1884.

FROM 7 TO 18, AND 600 LBS. HONEY.

I commenced the season with 7 colonies in fair condition, and increased to 18, and all are in splendid condition up to date. Extracted 600 lbs., mostly from alsike clover; did not get any fall honey. My bees are all on the summer stands; the most of them in double-walled hives. I sold my honey all at home, at 10 cts.; could have sold more, if I had had it. It has been very cold here — 22° below zero.

NORMAN GOODNOE.

North Lansing, Mich., Feb. 4, 1884.

DR. LAY HOPEFUL — HORSEMINT.

Our bees are in fine condition. Only one cold spell, ther. 24°, Jan. 1; 18°, 2d. Warm and fine again. I think we have enough supplies for this season. Horsemint is abundant. We had very light honey-yield last season, but we are hopeful for the coming one. You will not find us in Blasted Hopes, for we are arming for the fight. Wishing you much success this year, I remain yours truly, J. E. LAY.

Hallettsville, Texas, Jan. 3, 1884.

FROM 18 TO 54, AND 1100 LBS. OF COMB HONEY.

In the fall of 1883 I went into winter quarters with 20 colonies packed in chaff. All came through nicely and strong, with the exception of one which did not swarm. From the other 19 came over 50 swarms, which I doubled, so I had 34, making me now 54 colonies in all. Now for my report:

To 34 colonies increase, at $5.00 per colony....	$170 00
1100 lbs. in sections....	154 00
Total,	$324 00

I think if I am correct, that is $16.20 profit, per hive, spring count, which I think not a bad investment. All that my expenses were was for sections and foundation. HARLEM C. WELLAR.

Monterey, N. Y., Feb. 10, 1884.

FROM 10 TO 24, AND 50 LBS. OF HONEY TO THE HIVE.

I began the season near Vistula, Indiana, with 10 weak stands, most of them nearly "played out;" had to commence feeding in February, and as I had not the means to buy plenty of feed I gave them just enough sugar syrup and candy to keep them from starving until they could shift for themselves. Many in our neighborhood lost all their bees last winter and spring, and others who saved a part complained of the poor honey season. Of course, my success was nothing compared with the big reports you get from other localities; still I do not think that you will put me *quite* at the foot of the class. My 10 stands averaged a little over 50 lbs. of surplus honey to the stand, and increased by artificial and natural swarming to 24. As I was making preparations to move, I sold the honey for just what I could get at that time, and also a part of the increase at a sacrifice. Sold some of the finest one-pound section honey for 15 cents per lb.; and rousing big swarms, with $5.00 worth of honey, for $5.00; yet my account shows as follows:

Net proceeds from sale of honey and bees (deducting cost of sugar fed, hives, fdn., etc.)........	$87 10
Honey used in family (low estimate)...........	10 00
Growth of apiary, 8 stands at $5.00..............	40 00
Total,	$137 00

In October we moved to this place, bringing with us 18 stands of bees; shipped them in an ordinary freight car with our household goods. I examined them a week ago, and found them in fair condition, some of them having sealed brood which must have been started when mercury was away down below zero. I winter out of doors, packed with clover chaff. Now I will see what they will do for me in the Buckeye State. S. P. YODER.

East Lewistown, Mahoning Co., O., Feb. 12, 1884.

"Remindery."

Or Department for duties to be attended to this month.

FRIEND ROOT:—I see by Feb. GLEANINGS of the 15th that your bees are light of stores. Probably there never was a year when there were so many in the United States; and probably you could not do a greater favor to your many readers than to tell how the candy is made, and give a description of the Hill device in your next issue. I have not the A B C, and thousands of others have not. GEO. W. BATTEY.

Scipioville, Cay. Co., N. Y., Feb. 23, 1884.

Making candy is a very simple matter, friend B. Just put some granulated sugar into a tin pan; pour on a little water, just as you would to make molasses; then boil it until it sugars off by stirring in a saucer. When it grains nicely, and gets hard when cold, take the pan from the fire, stir it until it gets about as thick as you can spoon it out, then ladle it into small pans or basins, greased a little so the cakes will come out readily, and let it cool. If you are a new hand at the business, try say one pound until you are sure you won't burn it, and know how to cook it just hard enough. Lay these cakes right over the cluster. There is no particular need of any Hill device so late in the spring as this; but you will see a picture of this in the price list, if you do not understand it. Maple-sugar cakes may answer just as well; but if we should have severe cold weather yet, it might produce dysentery, if the quality were not very nice and pure. Granulated sugar is always safe for cold-weather feeding. We have not lost any bees yet; but we do not mean to hurrah before the first of May.

CONVENTION NOTICES.

The spring meeting of the Progressive Bee-Keepers' Association will meet at the residence of J. B. Haines, Bedford, Cuy. Co., O., on Saturday, May 3, 1884. All are invited. L. E. Brown, Pres.
J. R. Reed, Sec.

There will be a meeting, Mar. 15, at 10 A. M., in the Council Rooms, in Vassar, Tuscola Co., Mich., for the purpose of organizing a County Bee-keepers' Association. M. D. YORK.
Millington, Mich., Feb. 18, 1884.

The annual meeting of the New Jersey and Eastern Bee-Keepers' Association will be held in Room 24, Cooper Union, in the city of New York, on Wednesday and Thursday, March 12 and 13, 1884. The meeting on Wednesday begins at 10 o'clock A.M.
J. HASBROUCK, Sec.

The Iowa Central Bee-keepers' Association will hold their semi-annual meeting in the Court-House, on Friday, April 18, 1884, at 10 o'clock A. M. All are cordially invited to attend. All visitors from abroad will be hospitably cared for. Members of the association are requested to bring their baskets well filled, and we will have a general good time. Any one having any new apiarian implements, or any thing that will advance the interest of the association is requested to bring them for exhibition.
J. E. PRYOR, Sec.
Maple Grove, Iowa, Feb. 12, 1884.

Well, now, friends, that is hospitality in good old backwoods style. I wonder if they will have any honey for their lunch. If they have some as nice as that which Mrs. Culp brought to our Columbus association, with some good nice bread, such as our bee-keepers' wives know how to make, and plenty of milk by the "jugful," I think I should like to be there about dinner time. Wouldn't you?

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, MAR. 1, 1884.

Shall any teach God knowledge? —JOB 21:22.

SPIDER-PLANT seed has advanced from $1.00 to $1.50 per lb., or 20 cts. per oz., selling price.

BEESWAX is about one cent higher than we last quoted. But as we have a pretty good stock on hand, our prices for the present will remain unchanged.

WE rejoice in being able to tell you that our subscription list stands at 6278—a gain of 456 since last month. In December we were 6388, but we shall doubtless be beyond that before April. Thank you.

WE are buying No. 30 tinned wire in such quantities now that we have been enabled to reduce the price to 20 cents for a single pound; or in coils of from 5 to 10 lbs., as it comes from the factory, for only 16 cents per lb. No. 36 wire, one-half more than the above prices.

SUNFLOWER SEED.

WE are all out of mammoth Russian sunflower seed. If anybody has any for sale, will he please send a sample and give price? We had a great bin full, but it went all of a sudden. Our friend "Lu" suggests that Oscar Wilde is to blame for this sudden mania for sunflowers.

ALSIKE CLOVER.

JUST as we go to press we have secured by telegram a lot of 28 bushels of beautiful clean alsike, which we will sell, as long as it lasts, at $11.00 per bushel; $6.00 per half-bushel; $3.50 per peck, or 25 cents per lb. The above includes bags. If wanted by mail, 18 c per pound extra, for bag and postage. We can ship it by first train to any who may want it.

SPEAKING of Alley's drone-trap, I omitted to note that the machine will make it a very easy matter to get a boxful of choice drones from any hive we wish to breed from, and introduce them to any queenless hive we wish. Several times during the last summer we had orders for a cage of drones, and it was quite a job, I tell you, to catch and cage one hundred or more.

PEA-VINE, OR MAMMOTH RED CLOVER.

WE are having quite a brisk trade in the pea-vine, or mammoth red clover; and if you have never seen any, it might pay you to send for a 5-cent package. A great deal is sold for mammoth pea-vine clover, but it is not the genuine. We once purchased enough seed for several acres; but when it came into blossom we were chagrined to find it was only the common red clover.

I SUPPOSE many of the boys and girls who take GLEANINGS are fond of magazines, like Blue Eyes and Caddie. What magazine ought a wise parent to give them? My wife asked me that question, and I replied, "*Arthur's Home Magazine*, by all means." Every time I pick up a number I feel more satisfied I was right about it. For more than thirty years I have found pleasure and profit in looking over its bright pages.

ONE THOUSAND SIMPLICITY BEE-HIVES AT A SINGLE ORDER.

OUR enterprising friend C. M. Dixon, of Parrish, Ill., has just sent us an order for 1000 Simplicity bee-hives, with other things to match. The goods were dispatched in less than a week. Little did I think, when I first invented the Simplicity hive, that we should manufacture them at such a rate as to sell 1000 at a single order.

CHEAP INK.

I WAS just led to smile by noticing that our proof-reader used for his shorthand writing a bottle of Oldroyd's *bluing*. When I asked him about it he said it was better for his work than any ink he could find, because it does not spread on the paper as most ink does. As we sell a great big bottle for only five cents, it has the merit of cheapness, besides the other quality. Friend O., what is the reason you never said before, that your bluing makes the best kind of ink?

CHEAP PAPER.

WHILE speaking of cheap ink, I am reminded that we have also some very cheap writing-paper, used in the various departments of our factory, as well as by the shorthand writers. It is simply the GLEANINGS paper which we advertise elsewhere at 15 cents per lb. In order to have it ruled just as we want it, we do the ruling on the printing-press, and we can furnish it to you in sheets the size of this page, or a little larger, already ruled on one side, for 20 cts. by the single pound; 18 cts. in 10-lb. lots, or 15 cts. in lots of 100 lbs. In quantities of from 10 to 100 lbs., we will print on a letter-head, without any additional charge.

CHEAP MATCHES.

NEXT to a good smoker is a good match to light it with. As the largest match-factories in the world are in the neighboring city of Akron, we are enabled to give special rates. We have now the best drawing-room or parlor matches in boxes of 200 each, for only 3 cts. per box. The box is a neat little case arranged so as to hang nicely against the wall. On counting the matches we found 240 in a box, instead of 200. We can send you one gross of these boxes, packed in a neat case, for an even $3.00, which will be only a trifle over 2 cents per box. If you can not use the whole case, your neighbors will probably be glad to take a part of them at this extremely low figure.

PUT ON YOUR COUNTY.

WE are now receiving so many letters without the county, that we are obliged to employ a clerk to take the letters as fast as they are received, and hunt up the county from the Postal Guide. Even with all the helps we can get, we are liable to make a mistake, because no one knows what county you live in, as well as you do. No one can put on the county as easily as you can. Will you not try to help us, friends, by having it written in, or printed in, especially where you order goods by freight or express.

SENDING MONEY.

YOU may think it is strange when I tell you that a great many people, when they inclose money, neglect to say how *much* they inclose. Now, if you don't say so, how are we to notify you promptly that it was not all there? Quite a number of jangles are now under way on account of this very omission. Always tell how much you send; and I would recommend a postal order or a draft where you can get it. Even with registered letter, or money by express, we have had quite a few troubles, because the amount claimed to have been inclosed was not all there when the package reached us.

IN speaking of Mrs. Cotton's book, I omitted one important point, I notice. It is this: You pay her a dollar for a very small-sized book on bees—much smaller than any of the bee-books before the public, for the money. Now, when we buy a bee-book we expect to find in it full directions for making the hive the author recommends. Not so with this, however. The book gives a picture of the hive, it is true, but informs you that you must send $12.00 for a complete hive! But you can have diagrams and measurements for $4.00. As the book is "thrown in" for $4.00, her real charge is about $3.00 for "diagrams."

TESTED, OR DOLLAR QUEENS.

ORDERS are already coming in for these, and there are friends in the South who want to furnish them, but I am afraid to undertake mailing them so early in the season. Now, friends, please listen to reason a little. Why not send directly to those in the South who are advertising them, instead of sending to me, to have them go through two shipments? I know, with our facilities, and the experience we have had, we can oftentimes get them to you more promptly, even if they have to go double or treble the distance. But still, it seems too bad to send the poor little insects away up North, and then right back South again, as we often do. If anybody in the Southern States has dollar queens ready to ship now, please tell us so on a card, and we will give his name in our next issue, free of charge.

REVERSIBLE FRAMES.

OUR friends may be aware that we send out nuclei and frames of brood in little boxes having the ends of the boxes grooved like the spacing-board shown in the price list. They are made just right for 1, 2, or 3 L. frames to slide down into the grooves. We have sometimes used them in the apiary in this way; and although it is a little more trouble to slide the frames out of these nucleus hives, where the grooves fit about the frames pretty loosely it is not so very hard after all. Well, now, if you leave off the projecting arms of the frame, they will go in one side up just as well as the other. To prevent them going clear down to the bottom, a nail may be driven part way into the bottom-board at each end of the frame. This stops it, and supports it with scarcely any danger of killing a bee. The objection is, of course, that the bees would, during a heavy honey-flow, wax the frame so fast in the grooves it could hardly be moved. And besides this, the frames could not be moved sidewise; in other words, we should have them fixed at the exact distances, which, I believe, would be tolerated by very few apiarists. For all that, the idea keeps haunting me that the coming frame is to be all alike all around, with no projecting arms.

CIRCULARS RECEIVED.

M. C. von Dorn, Omaha, Neb., sends out a 4-page price list.

F. A. Snell, Milledgeville, Ill., sends out a nice 20-page catalogue.

Butler & Luther, of Poynette, Wis., send us a very pretty 6-page circular.

C. H. Hicks, Fairview, Md., sends out a 4-page price list of queens and colonies.

J. D. Goodrich, East Hardwick, Vt., sends out a 6-page catalogue, nicely gotten up.

A. W. Cheney, Kanawha Falls, W. Va., sends us a 4-page list of Italian bees and queens.

Dr. G. W. Young, Lexington, Mo., sends out a 4-page circular in regard to hives and bees.

E. Kretchmer, Coburg, Iowa, sends out a 20-page catalogue; new pictures and new matter.

We have just printed for Chas. D. Duvall, Spencerville, Md., a 6-page list of bees and queens.

Miller Bros., who were burned out last year, have risen up again, and send out a very pretty 8-page catalogue.

S. C. & J. P. Watts, Murray, Pa., have sent us their annual price list of apiarian supplies. It is tastily gotten up.

J. W. K. & A. G. Shaw, Loreauville, La., give notice on a postal card that they are now ready to fill orders for nuclei.

The Apiarian Supply Co., Wilton Junction, Ia., send us a 32-page catalogue, containing also much interesting matter.

James B. Mason, Mechanic Falls, Me., sends us a pretty little catalogue of over 40 pages, much of it being quite interesting reading matter.

The Berlin Fruit-Box Co., Berlin Heights, O., send us a 4-page circular, mentioning some important improvements they have made in making one-piece section boxes.

C. F. Muth, whom everybody knows to be a good man, sends out a 24-page catalogue, containing some very pretty new pictures, and much interesting matter. Among the pictures is Blanton's Simplicity hive.

Chas. H. Lake sends out a 4-page price list, descriptive of his new one piece sections, at only $3.50 per 1000. It is a pretty neat section for the money; but as it is shaved from the log, it will hardly equal those sawed and planed.

The Ontario Bee-Keepers' Supply Co. send out a 40-page circular, full of pictures and interesting reading matter. This catalogue advertises honey-skimmers, also honey-evaporators, I presume for evaporting honey that is too thin.

J. V. Caldwell, Cambridge, Ill., sends out a 4-page price list, including that of fdn., but he leaves the price blank, and writes it in with a pen. I don't know but it would be a good idea for a good many of us to do that way at this time of year.

Will Ellis, St. Davids, Ont., near Niagara Falls, sends us a very nice 4-page catalogue, and I am pleased to note that the printing was done by our good friend George Cork, of Niagara, with whom I stopped at the time of my late visit. When any of the bee-friends visit the Falls, they can remember to call on our friend Will.

E. M. Hayhurst sends out his postal-card price list once more, and concludes with the following sentence: "I do not know that I have a single dissatisfied customer; but if there are any such, and they will write me in regard to the matter, I will do the best that I can to render satisfaction." I wonder if anybody besides Hayhurst has grace enough to stick to that little text. If I am correct, I have never heard a complaint against friend H.

From A. H. Duff, Flat Ridge, Ohio, we have received a list of bees and supplies for 1884; 11 pages. As many of the friends are complaining that the bee-journals are putting the best side of apiculture to the front too prominently, we copy a few words from the first page of friend Duff's little pamphlet: "A person can realize more clear cash, from a few dollars invested in bees, than ten times the amount in acres. One-fourth or one-half acre is all you need. Stock it with bees, and you will realize more profit from your fraction of an acre, stocked with bees and properly handled, than you would from 160 acres. We have farmed and we have kept bees, and have found the difference in favor of the bee." Just hear friend Duff go on: "We have reports, and reliable ones too, of 300, 400, 500, and even 1000 pounds of honey from a single colony. Just think of it! One thousand pounds from one colony! As we often sell honey at 20 cts. per lb., this would be $200 the proceeds of one hive of bees. Now I think I can see you toss your proboscis up in the air, and say it can't be so. Well, I wish to give you some little idea of how it is done." Now, you see it is not the fault of the bee-journals at all: it was just these folks who send out circulars who have done all this mischief in getting everybody to go into bee keeping.

Last, but not least, Rev. George Raynor, Rector of Hazeleigh, Maldon, Essex, Eng., sends us a copy of his second edition of a little pamphlet of 24 pages on queen introduction. After these 24 closely written pages he closes with the following remarks: "Mr. A. I. Root, the author of that excellent book, the A B C of Bee Culture, remarks on Mr. Jones's plan of 'Direct Introduction:' 'It is my impression that 100 queens may be turned loose at the entrances of 100 queenless hives without losing more than five per cent on an average, if it is done during the honey season, and toward the close of a day that has furnished abundant forage. Where queens are plentiful, and apiarians pressed for time, I should recommend this plan of introducing; but it requires, as friend Jones wisely remarks, "considerable experience to know just the circumstances under which she will be accepted."' These words exactly express my own views and experience; and so far from advising the inexperienced to try the nostrums recommended as 'invariably successful,' to their almost certain chagrin and loss, I would say: 'Purchase queens at the head of small nuclei, and endeavor to build up, by paying a little more for them, rather than run a certain risk of losing all.'"

Now, friends, we have given quite an array of catalogues and price lists; and if any of you have spare time rainy days and evenings, I think it would be a good idea to drop a postal card to every one of them, look them over, and compare notes, and keep posted.

ITALIAN BEES.

Full colonies for sale now; four-frame nuclei, or by the pound, later in the season.
E. A. GASTMAN, Decatur, Macon Co., Ill.

200 COLONIES
ITALIAN AND HIGH-CLASS HYBRID BEES
FOR SALE!

THESE bees are in first-class movable-frame hives, all straight worker combs, with sufficient stores to carry them through the season. I guarantee these bees to be as *good* or *better* than those sold by other dealers for double the price, as hundreds of letters in my possession will testify. I have more bees than I can manage, is my reason for selling.

Delivered on board cars during April in good condition. Italians, $6 50; Hybrids, $5 50.

QUEENS.

I will sell a limited number only, of choice queens for *breeding purposes*, at a very low price, considering the quality of stock. Satisfaction guaranteed.
Address, 5-7d
GEO. W. HOUSE, Fayetteville, Onon. Co., N. Y.

ALLEY'S
Drone-Excluder, Queen & Drone Trap Combined.

Sample, by mail, 65c.; express, 50c. In the flat, per dozen, including one made for model (13 in all), $3 00. Those who purchase a sample can get one dozen in the flat by remitting $2.50. Drone-excluder, *without trap*, by mail, 30c.; by express, 20c.; in the flat, not less than one dozen, 15c. each. For description see page 151, GLEANINGS.

Send for our 23d annual circular and price list of four races of bees, queens, and supplies.
5btfd HENRY ALLEY, Wenham, Essex Co., Mass.

REVERSIBLE-FRAME HIVES,
—AND—
WHITE BASSWOOD SECTIONS.
SEND FOR CIRCULAR AND PRICES.
5-7-9d O. J. HETHERINGTON, East Saginaw, Mich.

HOLY-LAND & ITALIAN QUEENS.

I shall this season be better prepared to furnish superior queens promptly than ever. Please order early. Satisfaction and safe arrival guaranteed. Tested queens of either race, before June 1, $3 00; in June, $2.50; after July 1, $2.00. Untested, before June 1, $1.25 each; six or more, $1.00 each; after June 1, single queen, $1.00; six, $5.50; twelve, $10 00.
5tfdb I. R. GOOD, Tullahoma, Tenn.

At Kansas City, Mo.,

I raise pure Italian bees for sale.
Dollar queens in May, - - - - - $1.50
" " " June, - - - - - 1.25
" " after June, - - - - - 1.00
Tested queens, double the above prices.

Bees per ½ lb., same prices as dollar queens. For discounts on large orders, see my circular.

I warrant my dollar queens to be purely mated. I do not know that I have any dissatisfied customers; but if there are any such, and they will write me in regard to the matter, I will do the best that I can to render satisfaction.
5tfd E. M. HAYHURST, P. O. Box 1131.

1884.
Choice Italian Bees and Queens

From imported and selected mothers, and also from the noted Doolittle strain of golden Italians. Send for circular. SIMON P. RODDY,
5-7d Mechanicstown, Frederick Co., Md.

IF YOU WANT Seed Potatoes, Seed Corn, Onion Seed, Strawberry Plants, etc., Send for price list, FREE. GEO. H. COLVIN, Dalton, Pa. 5-6-7d

ITALIAN and HYBRID BEES FOR SALE. Strong stocks.
5-7d JULIUS FROSCH, Elmore, Ottawa Co., O.

1884. For Sale. 1884.

Pure Italian Queens and Bees

FIVE-FRAME (Langstroth Frame) COLONIES

A specialty. Five bright new combs, wired in, covered with young bees, filled with brood and stores with a pure young fertile Italian queen. My queens are carefully bred from best imported and homebred stock. Bees gentle, industrious, and beautiful; better than a natural swarm. I was awarded first premium at St. Louis Fair last fall over quite a number of worthy competitors for best Italian queens and bees. Send for circular and price list.

WILLIAM LITTLE,
5-7-9-11-13-15d **Marissa, St. Clair Co., Ills.**

SIMPLICITY B-HIVES,

with 10 frames and cover. 50 cents. The same in flat, 40 cts. Double-story Langstroth hive, with 20 frames, all complete, $1.00. 1-lb. sections, per 1000, $3.75.
T. A. GUNN,
5-7-9d. Tullahoma, Tenn.

FOR SALE CHEAP.—Bee-keepers, before purchasing standard hives you will save money by writing for prices of my large stock of second-hand hives and double nuclei boxes, which I will sell very cheap; hives as good as new. Order soon. Address ADIN A. SMITH, St. Johnsville, Mont. Co., N. Y. 5-6d

ALBINO & ITALIAN QUEENS

Those desiring to secure *pure* Albino queens will best accomplish their object by purchasing of the original producer of this valuable and beautiful race of bees. For circulars, address D. A. PIKE,
5-7-9inqd Smithsburg, Wash. Co., Md.

FOR SALE!

20 COLONIES OF BEES, mostly hybrid, on Langstroth frame; will be sold cheap. All the bees and brood on 6 combs in shipping-box. Address
W. G. SALTFORD, Box 248,
5d Rhinebeck, Dutchess Co., N. Y.

HEADQUARTERS

In the West

For Apiarian Supplies of every description. Send for our 1884 price list before purchasing elsewhere.

BRIGHT BROTHERS,
5tfd *Mazeppa, Wabasha Co., Minn.*

Pure Italian Bees and Queens!

SEND FOR PRICE LIST.

A. B. MILLER, WAKARUSA, ELKHART CO., IND.
5-7-9d

RUSSIAN MULBERRY-TREES. Size 25 in., bear second year. Price, 1 tree, 20c; 6 for $1, *postpaid*. Smaller size, 1 for 10c, or 12 for $1. Order early. Address S. P. YODER,
5-7-9d E. Lewistown, Mahoning Co., O.

Golden Italians!

Colonies, nuclei, and queens, cheap. For terms, address C. C. VAUGHN,
5tfd. Columbia, Maury Co., Tenn.

ALLEYS Early Deep Head CABBAGE.

Every one who has raised that magnificent Cabbage the **Fottlers** or **Brunswick**, has regretted that so fine a cabbage did not make a thicker head. The **Alleys Early Deep Head** is the successful result of years of careful selection and high cultivation to obviate these defects. As early as **Fottler**, it is as large, is thicker and heavier, bulk for bulk, and brings more in market than any other drum-head; per package 25cts.; per oz. 75cts.

Early Etamps Cabbage (new) earliest of all; 10 cts. per package **Guerande Carrot** (new), remarkably thick at the neck; per package, 10 cts.; per oz. 30 cts. **Perennial Onion** (new), lives in the ground without protection all winter and is ready for use weeks earlier than any other kind; per package 15 cts.; per qt. 80 cts. **Solid Ivory Celery** (new) nearly self blanching; per package 15 cts. **White Bonnieul Cucumber** (new), a mammoth white variety of extraordinary diameter; per package, 15 cts. **Dwarf Green Early Lettuce** (new) from France; per package 15 cts. **Banana Melon** (new), it resembles in color and form a huge Banana, and has strikingly the same fragrance; per package 15 cts. **Kentucky Wonder Pole Bean,** I have not found in 60 varieties one so prolific, a capital string bean; per package 15 cts. **Marblehead Early Horticultural,** probably the earliest of all beans, and yet a true horticultural; per package 15 cts.; per qt. 80 cts. **Marblehead Early Sweet Corn,** the earliest of all, giving growers a complete monopoly of the early market, original stock; per package 10 cts.; per qt. 60 cts. **Sea Foam Cauliflower,** decidedly the finest variety of all; per package 50 cts. To those taking packages of the entire collection, I will present a copy of either one of my four books on the raising of **Onions, Cabbages, Squashes, Mangold Wurtzels and Carrots.** THE PURCHASER TO MAKE THE SELECTION.

I OFFER $1000 IN PREMIUMS, for vegetables raised from my seed. Please find details in my seed catalogue; sent **FREE** to all. *FLOWER SEED*—I offer one package each of choice mixed selection from the following varieties, for 45 cents, the retail price of which would be 90 cents: *Asters, Balsams, Nasturtiums, Dahlias, Drummond Phlox, Salpiglossis, Sweet Peas, Hollyhocks, Petunias, Abronia Umbellata,* (very beautiful.)

JAMES J. H. GREGORY, Seed Grower, Marblehead, Mass.

BEE SUPPLIES.--

We furnish EVERY THING needed in the Apiary, of practical construction, and at the lowest price. Satisfaction guaranteed. Send your address on a postal card, and we will send you free our Large Illustrated Catalogue. Address
5-15d (ESTABLISHED 1864.) E. KRETCHMER, COBURG, MONTGOMERY CO., IOWA.

Honey. ✠ Honey.

Great quantities of it, and great quantities of choicest fruit from new Cuthbert raspberry. I have really found a good thing at last. It is the largest and best red raspberry grown; so say those who have tested it, and so say I. Will stand heat or cold, wet or drouth. Have tested it now for two years, and am really surprised at the quantities of honey gathered from the blossoms; and that, too, when but little is gathered from any other source: bees continue to work on them four weeks.

I make more money from the crop of berries alone, than from any crop grown on the farm. A limited quantity of fine plants for sale; 1½ doz. for $1.00 by mail, or $3.50 per 100 by rail.

4-6d DR. B. F. KINNEY, Bloomsburg, Penn.

EARLY BEES!

BEES of all kinds at prices to suit purchasers, at all seasons of the year.

After July 1st, almost given away.

A. W. CHENEY,
5tfdb Kanawha Falls, W. Va.

Tested Queens, $2.00.

Untested, $1.00. 4-frame nuclei, $3.50 and $4.50.

OSCAR F. BLEDSOE,
3-11d Grenada, Miss.

ORANGE GROVES made for non-residents. Address, with stamp.—
3-5d S. P. SHEPHERD, Altamonte, Orange Co., Fla.

SLICED SECTIONS!

A great saving of labor and lumber. "*Every bit as nice as sawed ones.*" (See GLEANINGS of Sept. 15). For 6 cents in stamps we will send two sample sections, with prices, by mail. Catalogue of berry-crates and baskets free on application. Address

BERLIN FRUIT-BOX CO.,
4btfd Berlin Heights, Ohio.

Pure Italian Queens,

Daughters of imported mothers; untested, until May 1, $1.50; from May 1 to Nov., $1.00. Tested, $3.00 and $2.00. Special rates for large orders. Nuclei a specialty.

D. HALL & CO.,
7th Dist. N. O., CARROLLTON, LA.
4-12 inqd-b

For Sale!

A COTTON, GRAIN, and STOCK FARM,

Situated on the Guadalupe River in DeWitt County, Texas, containing 1000 acres, 450 inclosed, and 200 in cultivation. An excellent location for a large apiary. Price $10,000. Correspondence solicited.

J. A. WIMBISH,
4tf-d-b **Cuero, DeWitt Co., Texas.**

Dadant's Foundation Factory, wholesale. See advertisement in another column.

FOR SALE.

50 SWARMS ITALIAN BEES in Simplicity and improved American hives.
4-5d S. ALBRIGHT, Monroeville, O.

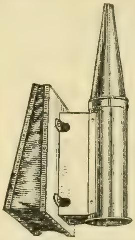
Bees for Sale!

50 colonies of Italian bees, in extra good Langstroth hives. Correspondence solicited.

J. MATTOON.
5-7d Atwater, Portage Co., Ohio.

BEE-KEEPERS' SUPPLIES.

It will pay to get our prices before purchasing supplies; good Langstroth hives, with 8-inch cap frames, in the flat, 60 cts. each; Langstroth winter-protector, in lots of 50, $1.50 each; small lots, $1.75, all in the flat. Manufactured of good pine lumber. Workmanship unexcelled. Crates, sections, and foundation. **WM. O. BURK,** 8tfd
Successor to Hiram Roop. Crystal, Mont. Co., Mich.



NOW READY!

NOW READY!

To fill orders for **500** of those splendid U. S. Standard Honey-Extractors, and 2000 of the new improved Bee-Smokers. Extra discounts in Dec., Jan., and Feb., both wholesale and retail, on all kinds of Apiarian Supplies. Agents wanted. Send for circular. **E. T. LEWIS & CO.,**
12 5d **Toledo, O.**
Factory, 36 Monroe St.

WHY SEEK ANY FURTHER?

My strain of Italian bees is not surpassed for honey-gathering and beauty of form. Dollar queens a specialty. A. COX,
5-7-9d. White Lick, Boone Co., Ind.

ALL DOVETAILED SECTIONS!

Langstroth and chaff hives, brood and wide frames, tiering-up cases, shipping-crates, honey-extractors, paper boxes for 1-lb. sections, wire nails, queens, and nuclei. Write for circular. WHEELER & ISBELL, Norwich, Chenango Co., N. Y. 579d.

BOOKING ORDERS!

Why not buy your queens and bees direct from the breeder? 25 cents saved is 25 cents made. I am now booking orders for queens and bees, to be delivered in April, May, and June, at the following low prices: Six untested Italian queens, with 6½ lbs. bees, $9.00; six queens, with 6 lbs. bees, $11.

Send for my new Price List. Address

W. S. CAUTHEN,
5-15d Pleasant Hill, Lancaster Co., S. C.

BE SURE

To send a postal card for our illustrated catalogue of

APIARIAN✦SUPPLIES,

Before purchasing elsewhere. It contains illustrations and descriptions of every thing new and desirable in an apiary,

AT THE LOWEST PRICE.

Italian Queens and Bees.

J. C. SAYLES,
HARTFORD, WASHINGTON CO., WIS.
1-3-5-7-9-11d

COMB FOUNDATION.

Having purchased a large stock of choice yellow wax, we shall make a specialty of this branch of our business this season. We also offer general apiarian supplies. Also a choice lot of Italian and Albino bees, bred from our new strains, which gave such good satisfaction the past season.

Send for our price list, and state where you saw this. WM. W. CARY & SON,
4btfd Coleraine, Franklin Co., Mass.

SILKWORM EGGS. Send 10 cents for enough to make a start. Address MRS. T. G. ASHMEAD, Williamson, Wayne Co., N. Y. 3-5-7d.

SEND

FOR OUR FINE DESCRIPTIVE PRICE LIST

—OF—

Chaff and Simplicity Bee-Hives

—AND—

Apiarian Supplies in General.

Good work, good material, low prices, and *satisfied customers.* Try us.

S. C. & J. P. WATTS,
4 b tf. d **Murray, Clearfield Co., Pa.**

COMB FOUNDATION.

Wax worked by the lb. on shares, or for sale, on the Given Press; size of dies 9x16 inches. Italian bees a specialty. A few black and hybrid colonies for sale. Send a card for prices; 200 bushels onion-sets; 2000 asparagus roots; strawberry and raspberry roots; W. Russian oats, and Champion potatoes. Send for descriptive price list. Lose no time, but send your orders early.
5-7-9d A. J. NORRIS, Cedar Falls, Ia.

BEE HELP WANTED.

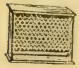
Two or three live young men wanted, to learn bee-keeping. Can give plenty of reference and practice, and the benefit of 26 years' experience.

S. I. FREEBORN,
3-5-7d Ithaca, Richland Co., Wis.

Basswood Sprouts,

FROM 1 TO 3 FEET HIGH.

$1.50 per hundred; **$10.00** per thousand. All orders should be in before April 1st, 1884, to receive attention.
12½tfd HENRY WIRTH, BORODINO, N. Y.



FLAT-BOTTOM COMB FOUNDATION.—High side-walls; 4 to 14 square feet to the lb. Circular and samples free. J. VAN DEUSEN & SONS,
Sole Manufacturers,
4tfd Sprout Brook, Mont. Co., N. Y.

Bees For Sale!

15 STANDS ITALIAN BEES,

All are VERY strong (having been 2 and 3 story hives last summer), plenty of good honey, to last till June; will guarantee safe arrival and healthy condition. Simplicity or VanDeusen-Nellis hive; wired frames, 1½-story hives. Price $6.50, f. o. b. cars here.
Address,—
3-5-7-9d *L. A. PORTER, Poplar Bluff, Mo.*

A Full Line of Apiary Supplies.

Headquarters for the West. Send for price list. Cash paid for beeswax. HOWE & SON,
1-11d No. 303 Broadway, Council Bluffs, Iowa.

MUTH'S

HONEY EXTRACTOR,

SQUARE GLASS HONEY JARS,
TIN BUCKETS, BEE HIVES,
HONEY SECTIONS, &c., &c.

Apply to CHAS. F. MUTH, CINCINNATI, O.

P. S.—Send Stamp of 10c for "Practical Hints to Bee-keepers." 1tfd

---

Bee-Hives AND Sections!

NEW SHOP AND NEW MACHINERY.

The Largest Manufacturer of Bee-Hives, Sections, etc., in the World.

Our capacity now is a carload of goods daily. Hives manufactured from soft white pine, and Sections from white basswood.

Send for our new illustrated price list for 1884. It is very important you should have our new list before ordering, as prices are arranged differently from last season.

G. B. LEWIS,
1tfd WATERTOWN, - WISCONSIN.

Stanley Dollar Smokers

U. S. Standard Honey-Extractor; 10% off list price. Also other supplies very cheap. See advertisement in January GLEANINGS.

G. W. STANLEY & BRO.,
3-5-7d. Wyoming, N. Y.

1884. 1884.

ITALIAN QUEENS.

Untested Queens a Specialty!

We are on the market with a fine stock of bees in good condition. Will be ready to ship queens as usual, April 1. Send for our descriptive catalogue of bees, queens, and apiarian supplies.

T. S. HALL,
5tfd b **Kirby's Creek, Jackson Co., Ala.**

BASSWOOD TREES,

One foot and under, per 100, $1.25; One to five feet, per 100, $4 00; Five to ten feet, 10c. each.

CHAS. T. GERRALD,
5 East Smithfield, Bradford Co., Pa.

BEE-KEEPING IN TEXAS!

See advertisement of Feb. 1, and address
WM. L. STILES,
5. Austin, Texas.

CYPRIANS and SYRIANS direct from their native lands. Fine queens before June 1st, $10; extra fine, $12; during June, $9; extra fine, $10. **Carniolans imported from Carniola, and Italians from Italy.** Fine queens before June 1st, $6; extra fine, $7; during June, $5; extra fine, $6. Any six queens, 5% off; ten, 10% off. Safe arrival. Expressage prepaid to N. Y. Send U. S. bills in registered letter to
3-5-7-9d FRANK BENTON, Georgen St., 3, Munich, Germany.

F. DN. MILLS. 10 INCH $15.00
W. C. PELHAM
MAYSVILLE, KY.

THE ALL-PURPOSE HIVE.

Arranged for continuous passage-ways, continuous combs, no honey-board, no bee-space, chaff and single-walled, no patent. Sample in flat. Given fdn., sections, etc. GEO. F. WILLIAMS,
2-3-4-5-6-7d New Philadelphia, Ohio.

DADANT'S FOUNDATION FACTORY, WHOLESALE. See advertisement in another column.
3btfd

NUCLEUS COLONY with Italian queen after June 1st for only $3.00. Samples of Business cards, 2c. J. L. HYDE, Pomfret Landing, Conn. 12½tfd.

DADANT'S FOUNDATION

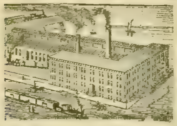
is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Geo. W. House, Fayetteville, N. Y., Wm. Ballantine, Sago, Ohio., E. S. Armstrong, Jerseyville, Ill., H. Drum, Adelphi, O., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd. Hamilton, Hancock Co., Ill.

BARNES' FOOT-POWER MACHINERY.



Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 in. cap, 100 honey racks, 500 broad frames, 2,000 honey boxes and a great deal of other work. This winter we have double the amount of bee hives, etc., to make and we expect to do it all with this Saw. It will do all you say it will. Catalogue and Price List Free. Address W. F. & JOHN BARNES, No. 68 Ruby street, Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. ROOT.

DUNHAM COMB FOUNDATION.

We have bought a large stock of choice yellow beeswax, and can furnish Dunham Comb Fdn. for brood comb, cut to any size, for 48c. per lb. Extra thin and bright yellow fdn. for sections, at 55c. per lb. We will guarantee our fdn. to be made of pure beeswax, and not to sag. Will pay 30c. per lb for yellow wax, or will work it up for 10c. per lb. To induce our customers to order fdn. early in season, we will allow 8% discount on all orders received before the first of March. Address orders at once to

F. W. HOLMES,
1-3-5-7-9-11d Coopersville, Ottawa Co., Mich.

1884. **COLONIES, NUCLEI AND QUEENS, FOR SALE.** 1884.

For terms, address

S. D. McLEAN,
3-5-7-9d iq COLUMBIA, TENN.

BEE-HIVES, CHEAP! CHEAP!

Simplicity and Heddon hives and cases. The last named, a *specialty*. One-piece sections, foundation, smokers, etc. Send for price list.

J. J. HURLBERT,
3-5 7 9-11-13d **Lyndon, Whiteside Co., Ills.**

LANGSTROTH, SIMPLICITY, —AND— CHAFF HIVES!

And supplies, made to order. Send for price list for 1884.

3tfd **S. D. BUELL. Union City, Mich.**

100,000 Sections!

First-class Simplicity sections, made of dry white basswood. Orders in by Mar. 1, 5% discount.

C. A. GRAVES, Birmingham, Erie Co., O.
Reference—Editor GLEANINGS. 4-5d

BEES FOR SALE!

40 COLONIES Italians and hybrids, in two-story Simplicity hives, at $5.00 each, if all taken at one order; or 10 hives to one order, $6.00 each. Delivered on cars here. STACY PETTIT,
4-5 6d Ft. Smith, Sebastian Co., Ark.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.

2tfdb JNO. VANDERVORT, Laceyville, Pa.

BEE-HIVES! BEE-HIVES!

Simplicity, Langstroth, and Chaff Hives, Section Boxes, Brood-Frames, and Comb Foundation. Send for price list. The successors of A. B. Miller & Son. MILLER BROS.,
1-3-5d NAPPANEE, Elkhart Co., Ind.

Dadant's Foundation Factory, wholesale. See advertisement in another column. 3btfd

---

CANADIANS, send for our illustrated catalogue and price list of Apiarian Supplies. Address

M. RICHARDSON & SON,
1 3-5d Port Colborne, Ont.

MAMMOTH RUSSIAN SUNFLOWER SEED, 10c per packet. Pint, 50 cents. Address T. GRAHAM ASHMEAD, Williamson, Wayne Co., N. Y.
12 1 3 5 7 9 11 13d

ALBINO AND ITALIAN QUEENS, BEES AND SUPPLIES FOR 1884

HEADQUARTERS FOR THE ALBINO.

For beauty, for kindness, and for large yields of honey, the Albino bee ahead. Last season we increased one colony to 6, from which we took 500 lbs. of comb honey, and all had abundant stores for wintering. We have a heavier stock of bees than ever before, and will be able to furnish queens in large numbers. We have also added to our buildings, and increased our facilities for Hives, Comb Foundation, and Apiarian Supplies generally. Send for Price List. Please write your address plainly. Address

3-5 7d **S. VALENTINE, Hagerstown, Washington Co., Md.**

ESTABLISHED 1855.

BEES HEADQUARTERS WAX

We have constantly on hand a large stock of Domestic and Imported beeswax in original shape, which we offer to manufacturers of Comb Foundatation at lowest prices. Write to us for prices. Address

R. ECKERMANN & WILL,
Beeswax Bleachers & Refiners, SYRACUSE, N. Y.

3 5 7 9 11 13d

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KIND WORDS FROM OUR CUSTOMERS.

I am very much pleased with my A B C. It is a beautiful book, nice in every way. You are certainly deserving of the prosperity you are enjoying.

ABBIE C. HOLDEN.
Norfolk Cr., Mass., Jan. 9, 1884.

We are very much pleased with the fountain pump, and the Clark smoker is called a wonder by our bee-king. Our bees are bringing in pollen lively today. I am sorry Virgil is finished. The last was the best.

MRS. K. HILTON.
Feb. 2, 1884.

The goods you shipped me Jan. 11 arrived O. K., Feb. 15. Freight charges were reasonable, packing good, marking well done, and that is important; full count, good quality, all satisfactory.

CHAS. WATERHOUSE.
Bayou Chene, La., Feb. 18, 1884.

SOME KIND WORDS FOR OUR PRINTERS.

We wish to say that the price lists you printed for us are a tiptop job. When we first got them we thought them a little large; but I like them first rate now. I can say to all who want job printing done, that A. I. Root is the man to do it.

Kenton, O., Feb. 25, 1884. SMITH & SMITH.

A BIBLE-MEETING IN THE WOODS OF FLORIDA.

Here in the woods we have started a Bible-class—we call it a Bible-meeting. I am the teacher. We have two Gospel Hymns, and want some more.

REV. J. H. WHITE.
Georgiana, Brevard Co., Florida, Feb. 20, 1884.

[May God bless the Bible-meeting, friend W., and all who do there attend.]

TO THOSE INTERESTED IN SILK CULTURE.

I notice in the last GLEANINGS, Mrs. Ashmead's offer. I have at least 120,000 silkworm eggs which I will sell at 10 cents per 1000 to the readers of GLEANINGS, if they will send to me before the first of April. I had them tested by the New York Silk-Culture Association, and they pronounced them "fine and healthy." They are annuals, and Pyrennean race. If you care to give your readers the benefit of this offer, I shall be glad to favor them. Such as I offer, the Silk-Culture Association sell for 25 cts. per thousand. I can not take stamps.

MRS. ANNIE WILLIAMS.
Slick Rock, Barren Co., Ky.

MAILING QUEENS IN FEBRUARY.

The queen you sent me has arrived all safe and sound. I introduced her as directed. She stayed in her cage about 24 hours, when she kindly walked out and made herself at home. I tell you the bees received her gladly. How glad they seemed to be when they found that they had another mother-bee in the hive! She was a beautiful large queen. There were but two dead bees in the cage when she arrived. By the way, bees are busy at work here gathering honey from the maple, and pollen from the alders. My brother brought me the bees from the postoffice. The cage, queen, and bees have created quite an excitement among my neighbors. They never saw the like before. Some of them come just to see the cage. I think you will get several orders from my neighborhood this spring for Italian queens. I tell my friends you have them to sell, and that you guarantee their safe delivery.

JOHN D. A. FISHER.
Salisbury, N. C., Feb. 25, 1884.

ALLEY'S

Drone-Excluder, Queen & Drone Trap Combined.

Sample, by mail, 65c.; express, 50c. In the flat, per dozen, including one made for model (13 in all), $3 00. Those who purchase a sample can get one dozen in the flat by remitting $2.50. Drone-excluder, *without trap*, by mail, 30c.; by express, 20c.; in the flat, not less than one dozen, 15c. each. For description see page 151, GLEANINGS.

Send for our 23d annual circular and price list of four races of bees, queens, and supplies.

5btfd HENRY ALLEY, Wenham, Essex Co., Mass.

COMB FOUNDATION.

Having purchased a large stock of choice yellow wax, we shall make a specialty of this branch of our business this season. We also offer general apiarian supplies. Also a choice lot of Italian and Albino bees, bred from our new strains, which gave such good satisfaction the past season.

Send for our price list, and state where you saw this.

WM. W. CARY & SON,
4btfd Coleraine, Franklin Co., Mass.

BEES FOR SALE.

50 SWARMS ITALIANS

In Sayles Simplicity hives. Per swarm. $10 00
Order now. Shipped as soon as season is favorable.

SWEET-CLOVER SEED.

Per lb., 17c; by mail..................................35c
5tfdb **J. A. GREEN, Dayton, Ill.**

HOLY-LAND & ITALIAN QUEENS.

I shall this season be better prepared to furnish superior queens promptly than ever. Please order early. Satisfaction and safe arrival guaranteed. Tested queens of either race, before June 1, $3 00; in June, $2.50; after July 1, $2.00. Untested, before June 1, $1.25 each; six or more, $1.00 each; after June 1, single queen, $1.00; six, $5 50; twelve, $10 00.

5tfdb **I. R. GOOD, Tullahoma, Tenn.**

Strawberry Plants, $1.00 per 1000.

The three best hardy berries—Col. Cheney (early); Chas. Downing (medium); Kentucky (late). Wilson and Crescent, $1.50 per 1000. 1 doz. of any of the above free by mail, 20c. Send money with order.

Address A. FIDDES,
5-6-7d Centralia, Marion Co., Ill.

EARLY AND GOOD!

TESTED AND UNTESTED QUEENS, raised from the best and purest stock. Price list on application. Send orders at once to

W. J. ELLISON,
6-7-9-11d **Stateburg, Sumter Co., S. C.**

CLEOME, OR ROCKY-MOUNTAIN BEE-PLANT SEED, Fresh, can be had of C. A. Flory, Hygiene, Boulder Co., Colorado. Sent by mail for 20 cts. single oz., or two oz. for 30 cts. It is the best honey plant in the world; after first sowing, seeds the ground itself. Blooms from June to frost. 5-6d

FOR SALE CHEAP.—Bee-keepers, before purchasing standard hives you will save money by writing for prices of my large stock of second-hand hives and double nuclei boxes, which I will sell very cheap; hives as good as new. Order soon. Address ADIN A. SMITH, St. Johnsville, Mont. Co., N. Y. 5-6d

Dadant's Foundation Factory, *wholesale and retail.* See advertisement in another column. 3btfd

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

NEW YORK.—*Honey.*—Permit us to quote prices on honey and wax as follows:

Fancy white-clover in 1-lb. sect's, ...	16 @17
Fair to good " " " "	14 @15
Fancy white-clover in 2-lb. sect's,..........	14 @15
Fair to good " " " "	12 @13
Stock of buckwheat is light.	
Fancy buckwheat " 1-lb. "	14
Fancy " " 2-lb. "	12½@13
Ext'd honey, best white-clover, in kegs or small bbls.,	8 @ 8½
" " " buckwheat, " "	8
Beeswax.—Prime yellow, pure, ...	36@38

MCCAUL & HILDRETH,
Feb. 29, 1884. 80 Hudson Street, New York.

ST. LOUIS.—*Honey.*—Our market continues dull for honey. Extracted, in barrels, 6½@7c for extra; in small cans, retail, 9@10c. Comb honey, only a small retail demand. Honey in bad order, 10@12c; in good order, 14@16c; white clover, 20c. *Beeswax.*—Scarce, not much arriving; yellow, 35@37½c.

W. T. ANDERSON & CO.,
March 8, 1884. 104 N. Third St., St. Louis, Mo.

CHICAGO.—*Honey.*—Comb honey is being taken in a small way. Prices are without change of special note for the best grades; off grades are slow at almost any price. Extracted honey, 7 to 10c. *Beeswax* scarce at 30 to 36c. per lb.

R. A. BURNETT,
Mar. 6, 1884. 161 South Water St., Chicago, Ill.

BOSTON.—*Honey.*—We have nothing new to note as regards the sale of honey. Prices are about the same, and we are trying to clean up our stock.

BLAKE & RIPLEY,
Mar. 8, 1884. 57 Chatham St., Boston, Mass.

KANSAS CITY.—*Honey.*—This market is now rather quiet, and fairly well supplied with comb in all shapes. Prices are a little off, only the choicest white comb bringing 18c., whether 1 or 2 lb. sections. Dark and irregular honey is scarcely wanted at any price—10@12½ being about the range. Extracted in fair demand for fall products at 8@8½; white, 9@9½.

JEROME TWICHELL,
Mar. 6, 1884. Honey Depot, 514 Walnut St., K. C.

DETROIT.—*Honey.*—Good honey is selling rather slowly at 18@20c. *Beeswax* is quoted at 30 cts.

A. B. WEED,
Feb. 27, 1884. Detroit, Mich.

CLEVELAND.—*Honey* is now coming in more freely, but prices have not changed. Best white, No. 1, in one-lb. sections, sells at 18 cts., with an occasional sale at 19. 2-lb. sections sell at 16@17; 2d quality, 14@15. Extracted, not salable. *Beeswax* 30@33 cts.; very scarce.

A. C. KENDEL,
Mar. 7, 1884. 115 Ontario St., Cleveland, O.

BeeswaX

CRUDE OR REFINED, ALWAYS ON HAND, AND ORDERS PROMPTLY ATTENDED TO.

RICHARD MERKLE,
Wax Bleacher & Refiner, No. 700 North 2d Street,
ST. LOUIS, MO. 6d

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

NOTES FROM THE BRIGHT-BAND APIARY.

FRIENDS:—The last time I appeared under the above head was more than a year ago, at which time, as some will remember, I laid much stress upon the superiority of my queens. Well, now for the result: Quite a number of queens were sold, and the next season (which was last summer) still a greater number were sold; in fact, I had orders for more than I could raise; consequently I have removed from my old place (Greenville, Tenn.), to this place, that I might raise earlier queens, and have facilities for raising a greater number of queens. I can now command 500 colonies in the queen business, if necessary. My intention is to produce queens not excelled by any. Price, untested, but laying, in April, $1.40 each; in May, $1.25 each; 90 cents each the rest of the summer. Tested queens, in May, $2.00; the rest of summer, $1.75. The above are from imported Italian queens; queens bred from Kingsley's improved bees, same price. Kingsley's improved bee is simply a cross between the Cyprian, Italian, and Holy-Land bees; and in reality they are ahead of any race, both for color and honey-gathering propensities. Sample live workers sent for 3c to pay postage.

All orders promptly attended to; safe arrival guaranteed; full directions sent with each queen.

Address CHAS. KINGSLEY,
6-14bd Benton, Bossier Par., La.

A SAMPLE THOUSAND

of our SLICED SECTIONS will be sent for $4.00. Price list of bee-keepers' supplies, also of berry packages, free on application. Address

BERLIN FRUIT-BOX CO.,
6d. Berlin Heights, Ohio.

PASTURAGE FOR BEES THAT PAYS.

Brandywine Red Raspberry, 4 acres, net last year, $145.00 worth of berries, and lots of honey. *Plants for sale.* $1.00 per 100; $7.00 per 1000.
6d W. D. HINDS, Townsend, Mass.

ITALIANS.

We are prepared to send out, early in March,—

Nucleus, Untested Queen, 2 frames, - -	$2 00
" " " 4 " - -	3 00

Add one dollar for Tested Queen.

Tested Queens, two dollars; untested, in April, $10.80 per doz. *Safe arrival guaranteed.*

J. W. K. & A. G. SHAW,
6d *Loreauville, Iberia Parish, La.*

BEES.☜ - ☞BEES.

SPRING PRICES:

Italians, - - - - - - - - - -	$9 00
Blacks, - - - - - - - - - - -	8 00

All in Modest 1½-story hives, frames 11x12.

C. J. SANFORD, - UNIONVILLE, - CONN.

A BARGAIN FOR SOME ONE.—Quarto Novelty Printing-Press (size of chase, 10x14). Type, Imposing-Stone, Table, Furniture, etc., all for what the press alone is worth, if sold before Apr. 1. Boxed and delivered on the cars. C. H. WOOD, Medina, O.

IF YOU WANT Seed Potatoes, Seed Corn, Onion Seed, Strawberry Plants, etc., Send for price list, FREE. GEO. H. COLVIN, Dalton, Pa. 5-6-7d

Wants.

WANTED.—To work for a first-class temperance bee-man in an apiary, on liberal terms. German not preferred. Address
4-6d A. L. MILLER, West Toledo, O.

WANTED.—An assistant bee-keeper. *Mechanic preferred.* References exchanged, and good wages. Address R. J. ADAMS, Lakeport,
6d Chicot Co., Ark.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.
F.A. Whiting

Vol. XII. MAR. 15, 1884. No. 6.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

KINDNESS TO DUMB ANIMALS.

PROF. COOK TALKS TO THE JUVENILES A LITTLE.

ON page 203 our friends will notice an inquiry from one of our ten-year-old juveniles. As soon as the matter was in print, I sent a proof to friend Cook, and for once in my life I did a wise thing. After you read the following, see if you do not agree with me:

Friend Root:—Thanks for the kind compliment you pay me in the note. You know, the merciful man is merciful to his beast, and the beatitude reads thus: "Blessed are the merciful, for they shall obtain mercy." I like the following, which has clung to my memory since I first read it in boyhood. Referring to our dumb animals, the stanza runs thus:

And if to us, one precious thing
Not theirs — a soul — is given,
Kindness to them will be a wing
To bear it up to heaven.

You know, friend Root, that a gram (to change to our modern measure) of prevention is worth a kilogram of cure. Now, I commence to train my calves and colts to milk and be driven kindly, as soon as they are born. If from the very dawn of their existence they are treated as less-gifted brothers—all the more kindly *because* less gifted, they will fairly blush at the thought of refusing any thing we may ask, or resenting any treatment we may offer, as maturity comes on. Will the juvenile readers of GLEANINGS laugh when I tell them that, a few years ago, having to drive a mare with her young foal — the latter highly bred and spirited — too far for the strength of the latter, I picked it up and took it with my own two children right with me in my carriage? Twice that day I lifted the wee thing out to nurse, and then again into the carriage. How grateful the little thing looked! I have my own notion that the act has never been forgotten by that colt. The other day, when I first drove that same colt, it went so well, and looked so wise, that I could not but think the dear little thing was all the time cogitating as to how it could best please me. Talk of its kicking! That is a fruit that never grows on such treatment as my colt has always received.

My Jerseys are spirited, and full of life; but we commence our playspells as soon as they are well righted up, so that my Jersey cow, as I milk her, will fondle me with all the show of affection and thankfulness of a true friend, which I think she is.

So, Brother Root, you see I have had no experience in breaking unruly animals. The treatment I give makes it unnecessary. Had I such a one, I should expect that good oats, corn, and abundant caresses, would change the bad heart, which, by petting and handling, should have been kept right from the start.

I am sure that animals should be kindly treated and petted from birth. This doeth the owner good, like medicine; will be appreciated by the animal, and will make it perfectly docile and tractable from the very first. A. J. COOK.

Lansing, Michigan.

Friend Cook, you do not know how glad I am to get just such an article, and I suppose you will not object when I say that I feel *sure* that bees can be made gentle in just the same way. Of course, many things are to be taken into consideration, and we are to study carefully the habits and disposition of the little insects. But I know I have made cross bees easy to handle, by managing just right; and although there have been sometimes unkind words said in regard to our metal corners, for me they are absolutely indispensable for handling cross hybrids, and teaching them to be gentle. I have before mentioned, that my brother, M. S. Root, of San Diego, Cal., is president of the society there for the prevention of cruelty to animals, and it makes my heart bound when I think that there is a great organization in our land to this end, and that they are doing a great amount of good. When you have love in your heart for your cows and horses, —such a love that makes it a privilege to minister to their wants,—very soon you will find a love has grown in them also, and they, too, will soon think it a pleasure and a privilege to do your bidding. Oh that all mankind could learn this! I do believe, friend Cook, that that little colt was actually "cogitating" in his mind how best he might please you, for you have been his best and kindest friend so far back as he, with his poor little "horse sense," can remember. Another thought: Knowing your dear children as I do, I can readily imagine their delight in being permitted to have the colt in the carriage as one of them. May God help us to remember these dumb brutes are HIS creatures!

THE FLOOD.

FRIEND DYKE'S LETTER.

NOT Noah's flood, but the great flood of modern times. The residents of the Ohio Valley have seen hard times during the past three weeks, and there will be much suffering and destitution for months to come. The river at this point began rising on Monday, Feb. 4, and on the following Thursday it had invaded nearly all the business houses of Pomeroy. It still continued to rise until Monday, Feb. 11, when it ceased. The water then stood 7 ft. 5 in. above the mark of last February, which was considered the highest water we had known since 1832.

This is a mining town, and many of the mines are flooded, and it is estimated it will take from six to eight months to pump them dry. In the meantime, one-third of our laboring population depends upon mining for a livelihood, and will hence be without means or work. A great many buildings floated from their foundations, some going away and others total wrecks. The call for relief met with prompt attention, and we do not know of any who have suffered. My shop was flooded to the ceiling, and my loss amounts to considerable in material, etc.

BEE-KEEPING

Is on the ascendancy, in spite of the warnings of W. Z. H., Heddon, and others. We have some very successful farmers who take a lively interest in bee culture.

CLIMBING BEE-TREES

Is spoken of by one of your juveniles in GLEANINGS for Feb. 15. Perhaps a little account of mine will be interesting in this connection. In June, 1878, I put a very large swarm of hybrids into an L. hive, but did not shade. They remained all right for several days; but in about a week they swarmed in my absence. My wife tried to settle them, but they refused to cluster, and made directly for a tall poplar-tree about 100 yards distant, the top of which they entered. I left them alone until August, when I took a notion to see if I could not save the swarm. So I climbed the tree, took up a rope to get down by, and draw up tools, etc., and first smoked the bees out of the comb, then cut the top off, which was about 15 inches in diameter, and 60 feet from the ground. It fell to the ground, carrying with it bees and honey. The bees would not come clear out of the hollow, but went into the upper part of it above the comb, so that I was able to save them; but the honey was in bad shape. The top came near taking me along. I have often thought of my escape since, and have never felt desirous of trying such an operation again. The tree was a valuable one, and I could not get the privilege of cutting it down.

THE REWARD FOR AN IMPROVEMENT IN CHAFF HIVES.

Do you still offer a reward to the one who will invent that chaff hive, of which both stories will be the same? I have an idea it is possible. It certainly would be a great improvement, if we could have a hive that would admit of hanging the frames of both stories the same way. I know I should like such a one better than the other way. S. A. DYKE.

Pomeroy, Ohio, Feb. 25, 1884.

There is no standing offer that I know of friend D., for that desirable feature for chaff hives; but I am willing to pay anybody who will give me an idea that would be as simple as the chaff hive in its present form, and yet admit of taking out lower frames without removing all, or nearly all, of the upper ones. Perhaps this reversible frame which is now being considered may solve the problem.

HOW TO MAKE SQUARE HONEY-CANS.

FULL DIRECTIONS SO PLAINLY GIVEN THAT ONE WHO IS NOT A TINNER CAN, WITH THE AID OF OUR SOLDERING IMPLEMENTS, MAKE THEM.

FOR 10-lb. cans, take a sheet of tin 9¼x20 in.; fold both edges of the 20-in. way ¼ inch at right angles, so it will look like Fig. 1, when looking at it endwise. Now snip out 4 notches in the folded edges, Fig. 2, 4 15-16 inches apart; measure from the same end for both edges. Now fold it up; have the folded edges come on the inside. The ends lap ¼ inch. Solder them together from the outside, and you will have a can like Fig. 3, without top or bottom. Cut two pieces 4⅞x4⅞ inches; in one piece punch an inch hole near one corner for screw cap; solder the piece with hole in first; let the folded edge of the can come on the outside of the piece, and solder, and you have got the top. You can hold the bottom to its place while soldering, by putting a stick up through the inch hole in the top. Now solder on your screw cap, and you will have a square can that will hold 10 lbs. of honey, costing about six or seven cents. Any boy can make them; and with a little pains they look nice. W. W. TURNER.

Oak Hill, Greene Co., N. Y., Nov. 24, 1883.

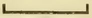


Fig 1

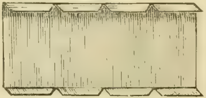


Fig 2

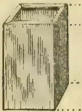


Fig 3

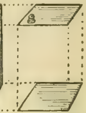
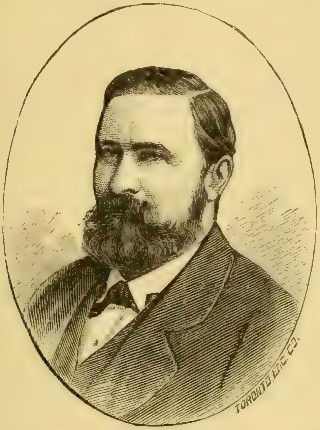


Fig 4

OUR FRIEND D. A. JONES.

THE GREAT CANADIAN BEE-MAN.

FOR some time many of the friends have been asking for pictures of noted bee-men, and many have wanted to know why they were stopped so suddenly. Well, friends, the reason is, I think, that they won't send me their pictures. I asked Doolittle for his, and he said he had not time to get one taken. Others had their excuses, and finally I got discouraged. Friend Jones, however, has finally let me have his, for I asked for it a second time, and here he is.


TORONTO ENG. CO.

D. A. JONES, BEETON, ONTARIO, CANADA.

So much has been said about friend Jones already, that it seems almost idle for me to attempt any sort of history or biography. He is a whole-souled, good-natured kind of man, who generally does as he pleases. If folks don't like it they can go somewhere else. He sometimes runs against people's prejudices; and where they go through the world with sharp corners sticking out, as it were, friend Jones might give them a brush occasionally. There may be times when friend Jones is not courteous, but I have never yet seen such a time. When you want any assistance he is always ready, and will do for you all in his power. But where he has a great amount of business on hand, he has sometimes a sort of off-hand way of giving replies that many people might consider reckless; and if you should be inclined to take him to task for his small discrepancies, especially if you did it in a fault-finding sort of way, very likely he wouldn't trouble himself much about it. I do not know but I admire this very trait in him. One must know him altogether to appreciate the greatness of his character. I say *greatness*, for he is one of nature's noblemen. The way in which he has labored for the good of the bee-keeping world, and especially for the bee-keepers who live here in the States, where he can have but little hope of reaping a reward in the shape of any thing he might have to sell, to offset the time and trouble he takes, is really wonderful. Although I know pretty well in regard to what people call his faults and failings, after having studied him well I feel the more sure that there are few in the world like him. He is emphatically a man who loves his fellow-men, and who loves to do mankind a service; and under the term "mankind" he would include all men and all nations. Mr. Jones has an unusual perception of the ridiculous in this world, as well as of the sublime, and it were almost worth a lengthy trip to see him in his happy way take off occasionally some of the laughable things that we oftentimes meet in this world of ours. I hardly need say that he holds, and has all his life held, a warm place in the hearts of his countrymen; and I am glad to see, as the years pass on, that he is getting to be esteemed by bee-keepers in the same way almost the world over.

TWO SYSTEMS OF SURPLUSAGE.

SOMETHING GOOD FROM FRIEND HUTCHINSON ON THE SUBJECT.

SINCE the invention of section honey-boxes there have been in use two systems of surplusage; the case, or crate method, and the wide-frame system. Nearly all of the crates, or cases, have been more or less complicated; some had movable bottom-boards, others movable sides; and in others, the sections were held in place or clamped together by wedges or wires; hence the more simple wide-frame system was very generally adopted. The greater adaptability of the wide frames to the employment of separators is probably one reason why that system has been so popular; but recent developments, however, have demonstrated that, if certain conditions are complied with, separators are not needed. This fact, combined with the late improvement in cases, has led many bee-keepers to discuss the advisability of discarding their wide frames for the improved cases.

Briefly stated, the objections to the wide-frame system are as follows: *Both edges* of *each* piece composing the sections are propolized where the sections touch each other or the sides of the frame; the difficulty of removing the sections when filled; an upper story filled with wide frames the same size as the regular brood-frames is too much room to give at one time in the surplus department; the lower tier of sections being finished first, and becoming travel-stained before the upper tier is completed. With the tiering-up method allowed by the case system, these two troubles are entirely avoided; but with wide frames containing two tiers of sections, travel-stained honey is usually the result, unless the sections are looked over quite often, and removed as soon as finished. Of course, wide frames only one tier of sections high can be used; but the method of manipulating them is necessarily more complicated. Wide frames also admit of side-storing; but how much more simple and better it is to *annihilate* this side space; make the hive so small (not more than eight frames, and I am not certain that six would not be better) that an ordinary queen would keep it full of brood; then if honey is brought in, it *must* be carried up stairs. As Prof. Hasbrouck says in his article, "Bee-power or Man-power, Which?" "Bees are the cheapest help to lift honey from the lower story to the upper." This article of the professor's is in the January No. of the *American Apiculturist;* and although I am wandering from the subject, I wish to say that *I* consider this article as the best of all the good things that friend H. has ever written; and I wish, friend Root, that you would copy it, even if you have to leave out—well, some of my *own* articles.

Last winter, when I visited friend Heddon, I was prejudiced (if that is the word) against the raising of comb honey. I had tried the wide frames, those the same size as the regular brood-frames, and those containing only one tier of sections; I had also tried different kinds of crates or cases, but I had laid all aside for the more simple, and, to me, more profitable extractor. When I saw friend Heddon's case, hive, honey-board, etc., I was very favorably impressed; and, as he says, I scanned closely, and asked many questions, until at last the whole arrangement so appealed to my reason that, although I had nearly a hundred Simplicity hives with American frames, I decided to lay them aside for the Langstroth frame and friend Heddon's case, hive, and surplus arrangements, and make a specialty of comb honey. I did so, and the experience of even the poor season of 1883 confirmed me in the belief that I made a wise decision.

In a back number of GLEANINGS a correspondent remarks, that wide frames are "doomed;" and in reply, you, friend Root, say that you had not yet heard of it. Now, if you could read the letters that I receive since the apiarian world has become aware that I am using the Heddon case, I think you would begin to think that wide frames are at least *going to be* "doomed." The following is a fair sample of the inquiries that I receive:

STEDMAN, N. Y., Jan. 23, 1884.

W. Z. Hutchinson:—Will you be so kind as to answer the following questions?

1. What kind of a rest is used for the sections in the Heddon case?

2. Is the Heddon case taken to pieces to remove the sections?

3. Could the half-story Simplicities, as figured on pages 226 and 284, Vol. X., GLEANINGS, be arranged to answer the same as the Heddon case?

4. Do you think Mr. Root's exceptions to the above articles are well taken? L. D. GALE.

From an experience of one season, with 150 Heddon cases, I will, with your permission, answer the above.

1. To the bottom of each division-board in the case is tacked a strip of tin, one-fourth of an inch wider than the boards are thick; the edges of the tin thus project one-eighth of an inch, and furnish a support for the sections.

2. No: the Heddon case is *not* taken to pieces; the sections being removed as follows. The case is inverted 4½ inches above a bench or table, and supported at each end. A piece of 4 x 4 scantling, one-half inch shorter than the width of the case, inside measurement, is laid upon one row of sections, and both hands brought down upon it "ker slap." The sections of this row are thus loosened and started, all at the same time, upon a *sliding* journey downward, the block and the hands involuntarily following. As the sections alight fairly and squarely upon their feet, so to speak, they sustain no injury. The block is drawn up by inserting the fingers in holes bored in the upper side, and placed upon the next row, und that "slapped" out, and so on and so forth, until all are out. In order that no pressure be brought to bear upon the center of the bottom-bars of the sections, the block of wood is hollowed out along the center of its under side. The same result can be obtained by tacking small strips of wood to the outer edge of the lower side. I can not help wondering if friend Miller adopted this method of removing the sections (I *presume* he did), and if so, *why* he succeeded no better. Friend M., if you don't succeed any better another season, I shall be tempted to come out to your place, and show you how to remove the whole 28 sections—well, *almost* as soon as you can remove the first section from a wide frame. In removing our 2600 lbs. of honey last season, my brother and myself did not break more than half a dozen combs, and those were only partly finished ones; and the lot of honey in which they were had been left in the cases off the hives, during a cool night near the close of the season, and I attempted to remove them early in the morning.

3. No: not unless smaller sections were used, as the divisions would occupy some room.

4. In my opinion, some of them are exceedingly well taken, others are not; but to review those two articles and the editorial comments, and do the subject justice, would make this article too long, hence must be deferred until the next time I write.

Just one word of caution or advice: To get a perfect idea of the Heddon system, one should not only *see* the case for holding the sections, but the hive and honey-board, as each is complementary of the others, and a slight mistake might change success to failure. W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., March, 1884.

Friend H., it seems to me there is some misconception or misunderstanding among us. The first objection you mention to the wide frame is, that the sections get covered with propolis where those in the cases do not. I can not understand you here, unless you have used your wide frames separated a little from each other, as you use the brood-frames. If the wide frames are close together, and wedged up, as we always intend to have them used, it seems to me they are the best protection against propolis of any system. With Heddon's arrangement, as you state it, I should suppose the bees had access to the bottom-pieces of the section, unless friend H. uses a honey-board made of slats to prevent this; and in that case it seems to me the division-boards occupy space unnecessarily. The plan you give for removing sections will answer as well for wide frames with a little different follower to crowd them out all at once. I think friend Miller once told us about this. At Toronto I saw them removing sections from all sorts of cases and wide frames, by a follower that pushed out the whole set at once. My argument in favor of cases would be, that they are cheaper than wide frames. Of course, we can dispense with separators with wide frames, as well as with cases. You may be right about a hive made so narrow as to hold 8 frames, or even 6, yet it seems to me during a heavy yield of honey the bees would work in boxes put at the side of the hive, about as fast as they would work in those on top, and that a much larger amount of honey would be secured by having sections at the side, as well as above the brood-combs, especially where the hive is contracted to 8 or 6 frames. The great results obtained by

Jasper Hazen, Mrs. Cotton, and Mr. Quinby, are, if I am correct, secured by having honey-boxes completely surrounding the brood-nest. Now, when we have a powerful colony and a wonderful yield of honey, I am pretty sure this arrangement will give a larger crop than can possibly be obtained with surplus arrangements only, above the brood-nest. Of course, Doolittle would agree to this, and I should be very glad indeed to have the opinion of Capt. Hetherington and L. C. Root in the matter, as they doubtless use side-storing boxes, and I know they have tested all these things pretty thoroughly.

"WE BE BRETHREN."

BEE CULTURE IN THE DARK (?) AGES.

WHILE considering a prominent point in our Home Papers for this month, the following was received from one of our bee-men, which he says was clipped from the *Statesman*, of Concord, N. H.:

> WRITING ABOUT BEES.
>
> The honey-bee has been the subject of curiosity for ages, and many books have been written about them. Virgil in his day gave to the world some very absurd ideas, and the more we read about bees, the more we are convinced that much penned is mere nonsense. It would take a lengthy article to put down all our doubts respecting the theories advanced by different writers. We will run over a few.
>
> We want more evidence to induce us to believe that the "queen," so called, is a queen, a real female, and that the drones are all *males*. The opposite would harmonize to the general principles of nature. We can't help thinking that the *queen* is a *king;* that the working bees are also males, and that the drones are females. This would balance the community much more in accordance with nature's laws, as displayed in all gregarious animals. Again, we call for more evidence to convince us that the killing of drones by the workers in the fall is a matter of malice or calculation. Question: Do not the drones begin to die off, as many other species of insects do, after having laid their eggs for new swarms? The females, dying, are thrown out as useless or foreign matter, and in their hurry to clear the hive, many are helped out while living.
>
> What about bees' eggs? Who ever saw them? We think they are viviparous, or as nearly so as some flies. More facts and less guessing would put the bee business into a more reliable shape. And on the subject of hives, what lots of hives are presented to the public, all the best! The most of them are merely gotten up by Yankee speculators, who fleece the farmers out of five or ten dollars for one that is not one whit better than a flour-barrel. Bees put in them linger one or two years and die off, and the hive and its wonders are thrown among the old rubbish. The old box hive was good enough for years, and bees did well; but in this age of progress, bees, to keep up with the times, must have new hives with as much machinery as a cooking-stove, and the bees just come out of them and go for the woods and select one of nature's hives, a hollow tree, and there store up their sweets, and are happy.
>
> Tuftonborough. J. L. HERSEY.

As the above article was warmly commended by the agricultural editor of the above it would seem that he, too, didn't see any thing wrong about it. The thought I would call attention to is this: The sad want of charity shown by the writer. Does he think that bee-men are working and talking and writing about something of which they know nothing? that they are blind leaders of the blind? or are they really brethren, who, like himself, are honestly and earnestly striving for truth? Again, why did he not, before writing about bees, go and see some genuine bee-man, and find out, by using his own eyes, whether "these things are so"? He innocently asks the question, "What about bees' eggs? who ever saw them?" I wonder if it is indeed true, that we are as uncharitable and as foolishly ignorant about other people's industries as the world seems to be of our own. If so, it is a burning shame and a disgrace to this 19th century, that we should be so shockingly *innocent* of what is going on in the world; and, saddest of all, so contracted and narrow (I am taking a part of it myself, dear friends) that we can not open our hearts and take in the great thought that "we be brethren;" and as brethren, are seeking alike for truth and wisdom, and looking upward toward the great Father over us all. Let us have still more fairs, conventions, and expositions, and let us get Bro. Hersey and take him along.

THE REASON WHY HONEY DOES NOT SELL.

BY MRS. L. HARRISON.

I HAVE always been surprised at the low price bee-keepers were willing to take for their extracted honey. My partner formerly opposed its production, saying that honey lost its flavor, when not sealed up in the comb. When I was in attendance at the National Convention at Cincinnati during the fall of 1880, I purchased a pound jar of Muth's extracted honey, and took it home with me. I heard my partner say, while eating some of it, "How very nice it is!"

During the convening of the convention at Lexington, Ky., in 1881, the ladies in attendance, and a goodly number of gentlemen, were entertained in a princely manner at the residence of Mr. Williamson. Upon their table, at different times, was a bowl of extracted honey, the like of which we had then never seen equaled, and rarely since. It was white clover, of delicate flavor, very light and thick. Ever since then we have been asking Lucinda Harrison why she could not produce honey like Mr. Williamson's, and last spring we told her she had *got* to do it. So after white clover was fairly under way, the honey was extracted from some combs, and given to the bees to be filled with white clover, and nothing else. The result was very gratifying. Whenever I wish to sell any of that honey, I select a person whom I judge would be a good customer, and give him a jelly-cup as a sample, wasting no words, merely saying, "Will you please try a sample of our extracted honey?" The proof of the pudding is in the eating; and when we have a customer, no one need "poach on our preserve," for it will do no good; he is ours, as long as we have a supply. This honey we sold at 15 cents per pound, while choice white clover, in pound sections, was retailing at two pounds for 35 cents. Buyers furnished jars or buckets, and it was delivered to them in liquid form, ten, twenty, or thirty pounds at a time. It seems as though retailing half-pound sections was very little business, compared to this.

Last fall I inquired of a groceryman if he wanted to purchase honey. His reply was, "Oh, no! I've six buckets I bought two years ago." I requested to see them, and found that he had tin buckets holding five pounds apiece, and had sold only a very little out of one. It was not very nice. Another dealer said he would as soon sell "soap-grease" as a neighbor apiarist's honey.

A farmer who has fifty colonies of bees, and runs them for extracted honey, sells all the product to his neighbors, and could sell more if he had it. He does not go out of his gate to do it, either. They come with their pails and jars, and carry it home with them. By the way, this farmer's wife can *talk*, and work as well. There is not a bee-keeper in the land capable of estimating the demand of his home market until he develops it. MRS. L. HARRISON.

P. S.—Dear Brother Root, I thought you had seen the error of your ways as to the wrong of selling honey mixed with glucose; but on reading your comments on the way Thurbers do it, I feel as though we would have to have a day of fasting and prayer over you yet. If you will tell me where I can buy some corn syrup, free from any poisonous acid, you will oblige me very much indeed—such syrup as the mother of little Huber is willing to give him day after day, for instance, as freely as mothers used to give their little ones New Orleans molasses.

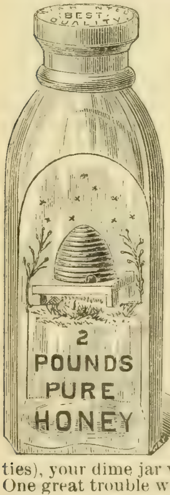
Peoria, Ill. L. H.

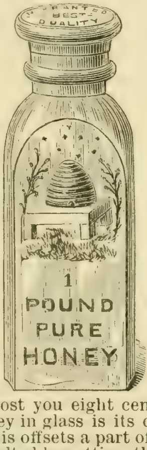
Now, Mrs. H., I am not nearly so bad as you think I am. I only proposed selling corn syrup, or glucose, to anybody who wanted it, labeled with his own name. Then you know the manufacturers would have an opportunity to dispose of it through a legitimate channel. I do not know where I can get any corn syrup such as Mrs. R. would be willing to feed little Huber. By the way, Huber likes honey immensely. It is just fun to see him smack his lips over some that is good. Well, a few days ago a friend sent us a sample of honey to taste. The color was good, and it was very thick; so I took it down to the lunch-room and put it on our family table; and without thinking to taste it myself, I gave Huber a good taste of it. To my great surprise, he didn't smack his lips nor act pleased, and I could not think what the matter was until I tasted it myself. What do you think? Why, it was some bitter honey that somebody down South had sent, and the poor little chap could not see the point, and so he wisely kept still and said nothing. By the way, I want to add emphasis to the point you bring out, Mrs. H., that clover honey, to bring a good price readily, must be pure, and free from the slightest taint such as any old honey remaining in the combs over winter would be likely to give it. Either give the bees a new set of combs when clover blossoms, or else extract all the old honey, and put it away by itself, then let the pure clover get thoroughly ripened by putting on two stories, or more if need be; then extract it, put it into clean tin buckets, and you can make a market just as you tell about doing, every time.

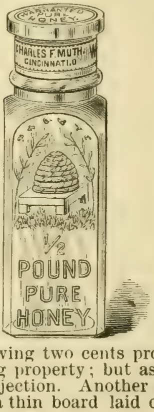
HONEY-JARS.

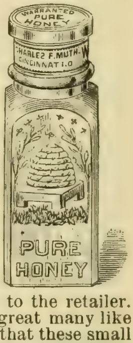
SHALL WE PUT OUR HONEY IN GLASS OR TIN?

WHILE friend Jones has been working so earnestly in devising tin pails and boxes for retailing honey, our stalwart and solid friend, C. F. Muth, has been sticking closely to the Muth honey-jars, which are known almost the world over. For years we have had one and two pound jars in the market, but now friend Muth gives us his half-pound, and a still smaller one, which he calls his "Dime" jar. This dime jar is to be sold full of honey for an even 10 cents; and it has the advantage over our dime tin boxes or dime jelly-tumblers, that it can be packed and shipped safely. The dime jar holds about five ounces. Price of these is $3.25 per gross, shipped from Cincinnati, which would be a little over two cents each. Corks and labels would make them toward three cents each. Counting the five ounces of honey worth five cents, (putting the honey at 16 cts. per lb., for such small quantities), your dime jar would cost you eight cents, allowing two cents profit to the retailer. One great trouble with honey in glass is its candying property; but as a great many like it best in a candied state, this offsets a part of the objection. Another is, that these small jars may be very quickly melted by setting them on a thin board laid on the stove where it is not very hot.









SMILERY AND BLASTED HOPES.

BOTH SIDES.

FRIEND ROOT:—I commenced three years ago with two nuclei of Cyprians, and have now 40 colonies of hybrids, all strong and vigorous, as their active house-cleaning, some days since, demonstrated. Lost none. All well supplied with stores. The cap is roof-shaped, thoroughly water-proof, with a space above the frames, averaging 2½ in. filled with dry leaves. Two short sticks lie across the frames, under the enameled cloth, so that the bees can cross over. With the mercury for a long time below zero, and at one time more than 30 degrees, they remained all right. As they have an incomprehensible method of making wax out of honey, and of reducing sweet water otherwise than by evaporation, so, also, they have a process, unknown to man, by which heat is generated, amply sufficient for all emergencies. The study of their wonderful and incomprehensible performances is extremely entertaining, to say nothing about the fun of hiving, taking out sections, extracting, etc.

The yield of honey last season was large, but alas! I have still the most of it on hand, and this takes me out of the "Smilery" over into the other place. The honey market here is hopelessly glutted. My merchant in Kahoka occasionally sells a few pounds for me, and we occasionally sell a little at home. Price, comb honey, 10 cts.; extracted, 6¼ cts. Hence the outlook for profit is extremely gloomy, and I should be in a sorry plight had I to rely exclusively upon this business for a living. I would say to all who contemplate making it a specialty, *don't*.

I thought for a time that, when honey ceased to be a luxury, by reason of the reduction of the price, a taste for it would be cultivated by the masses; but in this I was mistaken. *The more of it used, the less it is desired.* Its rank and pungent taste soon cloys upon the palate. My family liked it much at first, but it now remains upon the table, and is seldom touched. Honey is used for many purposes, and doubtless in the future will have a certain market, but the figures will be low. Its actual value consists in the saccharine matter it contains. Take a lot of honey and analyze it. It contains so much grape sugar, so much manna, a certain amount of mucilage, and also pollen, acid, and other substances and juices. Now, the only thing about it of actual value is the grape sugar, and that is so tangled up with other things as, doubtless, to impair its value for some purposes. As an article of diet, though the manna itself may be "both a food and medicine," and the pungent vegetable extracts may have "rare virtues," yet it is useless to close our eyes to the fact that the American people eat, not for health, but for satisfaction. C. S. CALLIHAN.

Jem, Mo., Feb. 12, 1884.

Friend C., your article is certainly frank and fair, yet I am inclined to think you rather underrate the value of honey for food; and I believe your market can be worked up to a better state than you represent it, if your honey is of *good* quality. Last month I spoke about the basswood honey in the comb being better than our extracted honey. A few days afterward, a bee-keeper offered me about 1000 lbs. of nice basswood honey at 8 cts. per lb. He got a little discouraged in trying to sell it, and so offered it low. A sample of it was put on the table in the lunch-room, and I asked how many would take some of it at 10 cts. per lb. It was ordered rapidly, and for the past ten days we have been doing the nicest retail trade in honey I ever knew. I put an advertisement in our two county papers, as follows:

> HONEY FOR ONLY 10 CENTS PER LB.
>
> Until further notice we will furnish our best quality of extracted honey, either white clover or basswood for an even 10 cents. Bring on your pitchers or pails and get them filled. Or we can furnish you neat and pretty packages of any size you wish, holding from ½ to 100 lbs., at very reasonable prices. Now is the time to lay in a supply, for good honey will keep a hundred years, if you want to keep it so long. Nice comb honey at from 15 to 20 cts. per lb.
>
> A. I. ROOT, Medina, O.

The very next morning, people came flocking in with pitchers, tin pails, and all sorts of utensils, and we have had a steady trade ever since, and Mrs. Shane informed me that the 1000 lbs. would soon be gone, at the rate it was going. Two cents per pound profit is not much, it is true; but as a great part of it was sold in 10 to 25 lb. lots, it was a pretty fair business after all. The secret of it is, the honey was sweet and pure and well ripened; it was never in barrels at all, and had no taste of barrel-staves about it. With a pitcher of milk, and some nice bread and butter, I could eat it three times a day, and feel happy too. Now, is your honey really good, thick, and kept in tin, so it has no unpleasant flavor, and have you got a honey market worked up on it? I want to see you not only smile when you work with the bees, but when you hand the honey over to your friends and neighbors during the winter, friend C.

OUTDOOR WINTERING.

POLLEN NOT NECESSARILY A CAUSE OF DYSENTERY.

AS you well know, I have been for years an advocate of outdoor wintering, and for the reason that I have been invariably successful in wintering my bees on their summer stands. This winter, that has been unusually severe, is no exception with me, as to-day I opened my hives and found every colony in good shape, with a large amount of brood, and very few dead bees.

The winter, I said, had been unusually severe; and when I inform you that for some eleven weeks the thermometer went no higher than 22° above zero, and for a number of days it ranged from 6° to 18° below, you can well believe I assert nothing more than the truth. My colonies are nearly all in Simplicity-Langstroth hives, containing 7 and 8 frames of comb, with division-boards on each side. I found the combs all dry, and without a particle of mold, showing that no moisture had condensed, and therefore there was no chance for ice to form inside the hive. But little honey had been consumed, owing, I suppose, to the extreme cold, which caused the bees to assume and keep in a semi-dormant state. Although the bees were flying freely, there was no spotting of hives or the little snow upon the ground, and this notwithstanding I left a large amount of pollen in the frames for the purpose of testing the pollen theory. I am more fully convinced than ever, that pollen alone does not cause bee-diarrhœa, or dysentery, so called (whether it is a factor in so doing in connection with other things I know not), and that we must look further still for the cause of that peculiar plague of the apiary. I am also convinced that we must have a light warm porous covering over the frames; and as forest-leaves have proved a success in every instance with me, I shall stick to it that there is nothing better.

I do not believe in upward ventilation to the extent of causing a direct draft through the hive, but consider it indispensable for outdoor wintering, to allow a chance for excess of moisture to pass off imperceptibly from the tops of the frames. I consider the Hill device, or some substitute therefor, that will allow at least ¾ inch space above the frames for the bees to cluster in, and allow them to intercommunicate with every frame in the hive safely, indispensable also. A good strong colony, packed in 6 or 7 frames, L. size, with upper half full of scale honey, a Hill device over the frames, covered with a porous mat, with 6 inches of forest-leaves poured lightly into the upper story, and entrance contracted to about 1½ to 2 inches, will, I firmly believe, withstand the severe cold of any Northern winter, on summer stands, and come out bright, strong, and healthy, in the spring; at least, such has been the case with myself for years, and I have no more fear of winter, so far as losses are concerned, than I have of any other season of the year. Perhaps as many say, the L. frame is too shallow for winter use; but I find in practice that my bees winter well on it, and what more can be desired?

Foxboro, Mass., Feb. 25, 1884. J. E. POND, JR.

We have wintered just about as you describe, friend P. Although we use chaff hives, I have, like yourself, been so far successful. I, too, am satisfied that pollen does not necessarily cause dysentery, although I believe I would a little prefer our colonies should go into winter without any, if I could have them thus. The Hill device (or some equivalent) and a porous covering seems to be the great important thing. We should remember, however, that bees have generally passed through this severe winter well.

UPS AND DOWNS OF BEE-KEEPING.

THE THORNS AND ROSES OF APICULTURE.

MY father-in-law gave me a swarm of hybrid bees in the spring of 1878. That begins at the commencement, so far as practical experience is concerned, with us. We quit the season with 7 swarms of bees and 5 gallons of honey. First winter, put bees in cellar; lost 3 swarms by May 1, 1879, so we had 4 left to work on; quit the season of 1879 with 18 swarms and a barrel of nice honey. We were in earnest. We made us a hay house, and packed our bees away in sawdust, but, alas! by spring they had all turned up their toes. We could have folded our hands, and said the business was a failure; but we had learned the lesson of the old adage, that eternal vigilance is the price of liberty, and that it was applicable to the success of any thing that is good; so in April, 1881, I sent to you for a nucleus of pure bloods, and ordered them sent at once. The 20th day of June they arrived in Logan. Of course, all I could do that season was to build them up into a good strong colony, and let them remain on summer stands all winter. In the spring of 1882 they were strong and nice. I quit the season with 7 swarms of bees and 22 gallons of honey; put our bees away in an old open house; came out last spring with 4, only one of them in first-class condition; quit the season with 8 swarms, after selling 4 at $10.00 apiece, and 65 gallons of honey.

DOES IT PAY TO KEEP BEES IN CONNECTION WITH OTHER BUSINESS?

Now, friend Root, Mrs. P. has had almost the entire control of the apiary for the last 2 years; she has 5 children to look after, and no help whatever, except what she gets out of them. I keep no hired help, preferring to do my own work that is necessary to run 160 acres of land, excepting a little in harvesting and haying. Since there is considerable being said just now about who shall keep bees, I thought I would tell what I think about it, and that is this: That any one with good natural sense and plenty of spunk, and who reads the journals, can, with little expense, have all the nice honey they can possibly use, and sell enough to pay expenses.

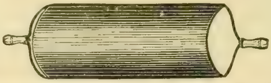
H. V. PECKENPAUGH.

Reeder's Mills, Harrison Co., Ia., Feb. 25, 1884.

DIPPING WAX SHEETS.

A METHOD SUGGESTED FOR GETTING SHEETS OF AN EQUAL THICKNESS AT ONE DIPPING.

I USE a kind of dipping-board for sheeting wax, different from any I have ever seen described, which I think would be appreciated by those who, like myself, make their own foundation, and have to rig up the necessary apparatus as cheaply as possible. It requires no special dipping-tank — a common wash-boiler answering perfectly — and the wax can be used off until it is only an inch, or even less, deep on the surface of the water (which is used to fill up with). The board consists of a disc of galvanized iron, of the required dimensions, bent in the form of a half-cylinder, to which is attached a handle at each end, by means of wires soldered to each corner of the disc, as shown in the drawing. These wires should be about No. 14, brass or steel, spring wire. To operate it, I take a handle in each hand, and give it a *rotary* motion (which takes a little practice to do properly) first through a very thin flour paste, then through the melted wax as often as desired, reversing the motion if dipped twice, so that the sheets will be of an even thickness, then dip into cold water, and peel the sheets off. I have used this method two seasons, and consider it in every respect satisfactory. T. W. LIVINGSTON.



LIVINGSTON'S DEVICE FOR DIPPING PLAIN WAX SHEETS.

Ainsworth, Iowa, Jan. 28, 1884.

Many of our readers know, I presume, that we for years used sheeting plates made of galvanized iron. We abandoned them, however, for the wooden dipping-boards we now use, because the wood holds the water so much better than the iron. With the wood, however, we do not get an even thickness, even though we reverse the sheet, putting in first one end and then the other. The plan given above might be valuable for making sheets of an exact size, like those used by the Given press, for instance.

MRS. AXTELL'S REPORT FOR THE SEASON OF 1883.

Another Successful Honey Season.

ALSO SOME CAUTIONS IN REGARD TO DISPOSING OF A CROP OF HONEY.

WE began the spring of 1883 with about 184 fair colonies, after being doubled up, leaving about 50 very weak colonies, because of taking brood away to build up the others—only bees enough left to care for the queen until swarming-time; but care should be taken that they are not left too weak, as they will die. We had about 120 swarms, some of which were supersedures; such were put back generally, and all the weak colonies built up with the brood the swarms came from. Every colony in the apiary should be made strong as fast as possible; yet wisdom should be used in building up nuclei and weak colonies, that more brood is not given them, than they can keep warm and feed, even in mid-summer. We have had brood lost in that way.

Late swarms and all second swarms were put back. From the 185 fair colonies, and 50 or 60 2-frame colonies, we increased to about 275 colonies, some of which were disposed of, and took about 15,000 lbs. of honey—1000 or more we are holding in reserve for spring feeding; 1800 was extracted honey, and the rest comb honey, making about 80 lbs. per good colony.

Had we not had strong colonies, our honey crop would have been short this year, as we had a good many empty brood-combs that we gave the swarms, so but little honey was used in building brood-combs.

Commission men used to tell us that they did not wish to handle the honey until the flies were nearly gone in the fall; but last summer they were willing to take it as soon as they could get it. We think it pays to get it on the market early, because then we have a longer time between seasons to sell it, and it looks nicer before cold weather. We had honey on the market in Chicago by the last of June. It did not bring so much per lb. as later in the season, because the fall crop was short.

BE CAREFUL TO WHOM YOU ENTRUST YOUR HONEY.

We came near losing about $550 on our crop of the year before, sold by a commission merchant in Chicago. We could not induce him to make payments until it was about all sold. He then would keep the money and pay in small monthly payments, saying he was about broke up, and if we pushed him he could pay nothing at all, as his creditors would take all he had. He finally failed to pay what he had promised monthly, and tried to get Mr. Axtell to take his note, which Mr. A. thought would be worth nothing if he had nothing, and was advised to place it in the hands of a lawyer, R. E. Jenkins, 89 Madison street, who undertook the case, telling them they had committed a criminal act, and had laid themselves liable to punishment, in case they did not pay up promptly. They wrote to us begging leniency, but we referred them to our lawyer. We agreed to throw off about $50 if they would pay the rest, which they did promptly. We felt we were favored in finding so good counsel, honest and straightforward in his proceedings, and would recommend him to others who might need counsel and help to collect their dues. He charged only $30 for collecting the $500; $10 per $100 is the usual price, I believe; but he being a Christian man, and we were to give the money to foreign missions, he threw off $20. Mr. Jenkins advised us never to take a note of a commission merchant, because that would prevent him being laid liable to punishment, if failing to pay when he uses the money for himself. It is a comfort to know there is such a law to protect farmers and bee-keepers and others in sales by commission, as it seems the only way to sell large crops. It is better to pay 10 cents on the dollar than to lose all, and it is well, too, to have some one we can trust to look after tardy commission men once in a while, to look in upon them and inquire after sales. I think he helped us in another case by simply asking after it. He made no charge for that.

We hardly think it best to make very large consignments of honey to any one man, because it takes so long to get a settlement (if others' experience is like our own), and they change their firms so often, unless one could find a house that he or some of his acquaintances knew. The man who failed, and we came so near losing by, came to us as a member of the Mercantile Agency, and we were told if one of their members fails they agree to look after him and make him or help him to pay his debts; but I guess that is a mistake. He remarked to us that the Mercantile Agency knew nothing about his standing. They generally write us they would like to handle our whole crop, because they can do better by having all there is of a certain brand; but I don't believe it makes any difference as to that. If they have a large amount on hand, it takes a long time for them to get rid of it. If one could sell his honey outright at home, even at a lower price than they hear it is on the market, it would save considerable anxiety, and usually pay about as well.

Some seem to blame Mr. W. Z. Hutchinson for showing up the dark side of bee culture. No one can honestly deny but there is a dark side to it; but keep right ahead through both dark and the light, and success is sure to follow, especially if the *women folks* have a hand in looking after the bees, as their work pays as well as a man's work. As for a cure for dyspepsia, I know from experience there is no surer cure than bee-work for both the purse and the body; but I believe every one should have some other occupation linked with that of keeping bees, or else there will be years of suffering and disappointment, especially if one has a family to care for. I sympathize with such, rather than criticise them; but I would advise them to keep ahead, and not to lose the valuable knowledge already gained; put the children into the business, and make them helpers as fast as old enough, as Father Grimm used to do. Teach the girls to care for a few colonies, and put the honey into shape for market; and if there is an invalid in the family, carry his cot out among the bees, and let him watch the swarms; give him a queen-cage, and leave him there alone; and before he knows it, he will have flown around after the queen and the swarms, until dyspepsia and the other ills that flesh is heir to have for the time being disappeared. Invalids are just the ones of all others to keep bees, if they have kind and experienced friends who are willing to help when they need help, and are a little forehanded and can hire help; but above all, if they have the perseverance that can never say *fail*. Something depends upon the kind of hive we use. You all know I have been an invalid for many years. For 27 years I have kept my bed about three-fourths of the time, until I began bee culture, because I was an invalid. I could neither walk nor lift but very little, and such is the case yet when I begin in the spring, as I always run down in the winter; but by having my girl always with me to take steps and do the light lifting (as there is no need of heavy lifting with our hive, as the sides are clamped together, and all parts, both top and bottom, are separate, and can be taken away, and combs left standing on the bottom-board), there need be no lifting of heavy hives; and if there are piles of unsealed honey on top, it does not need to be removed before you get into the brood-nest, but simply take off one side. I would strongly recommend the Quinby hive, holding about 10 brood-frames, for the use of ladies and invalids.

WHO SHOULD KEEP BEES?

The question is often asked through the journals, and answered, "Who should keep bees?" I should like to suggest that all Christians should, and give the half of the proceeds to home and foreign missions, and prove the Lord therewith, and see if they will not need to build larger houses to hold the honey. His promise is, if we will but bring in the tithes, that he will "open the windows of heaven, and pour us out such a blessing there will not be room to receive it." He is a promise-keeping God.

Friend Root, I was just reading that you sometimes sold GLEANINGS for waste paper; you did not like to give them away, because it would not be serving all alike. I should like to ask that you send a few numbers to Rev. S. R. Keam, of Caddo, Indian Territory, a very faithful and earnest missionary to the Choctaw Indians, and also a few to Rev. James Brewer, of Gladbrook, Iowa, who is father-in-law to Rev. Mr. Christy, of the Turkey mission. Sending to them would be *exceptions to the general rule*, as they both have a few colonies of bees, and would be very thankful for any such helps.

Those hymn-books your employes sent us went to Mr. Keam's Indian mission. I wish I had time and space to tell you of the great good he is doing, and of the help those books and hats sent him have been to him. He turns the hats into money, and uses it to help build Indian churches. Every little helps. He has four Sabbath-schools under his charge, and asks for Sabbath-school papers; asks for old ones, but of course new would be acceptable. He says he has his heart set on building two more log churches, and a parsonage for himself this next year, to save the A. H. M. Society paying rent for parsonage. He asks us to send him all the hats and bees we can, and he will do his best to convert them into money. Won't others help him too? Supt. Doe, of the A. H. M. society of the South-west, speaks very highly of him and his labors.

Roseville, Ill., Feb. 22, '84. MRS. L. C. AXTELL.

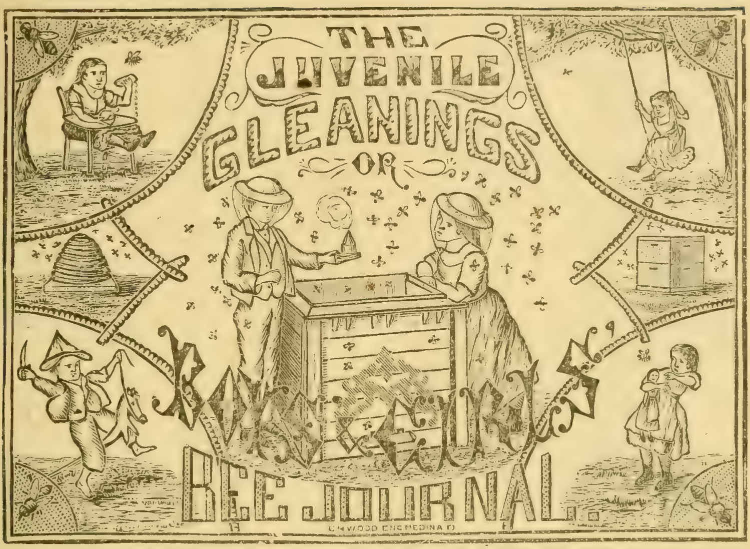
We are very glad indeed to know, my good friend, that you are still successful with the bees. But I must confess I had to smile pretty broadly when I got where you told about employing a lawyer to make your commission man come to time. So it is really true, that with all your zeal for Christian work and foreign missions, you at the same time think it right to go to law in order to save your property. I believe you are right, my good friend, but I am afraid some of our skeptical friends will think it a little queer to hear you talk of lawsuits and foreign missions almost in the same sentence. I do think there is great danger that we get into a way of going to law with neighbors, or perhaps fellow-Christians; though I feel satisfied, too, especially of late, that it is right to *compel* unscrupulous, or even slack and heedless people, to pay us our just dues, though, of course, we should go about it with Christian kindness. I am glad to know of this point you mention in regard to the advantage we have in sending our honey to commission men. Will somebody tell us if this holds good in all the States? I confess that I should take a note, without thinking. And so, Mrs. A., you think all Christians should keep bees. While I am not quite prepared to indorse all that, I do most earnestly wish that all Christians would consecrate a part of their earnings to Christ's cause, and for the advancement of his work; and I do firmly believe that we should all be gainers instead of losers thereby.

DEPARTMENT FOR THOSE WHO SAY GOODS WERE NOT THERE.

THE comb starters that I missed are all right. My brothers were putting the frames together; and when they were putting the frames away they put part of a package of the starters away with them, instead of putting them into the box with the unfinished frames. Thus they were lost for a time, but are all right. *No mistake of yours.* J. F. KERWIN.

Java, N. Y., Jan. 17, 1884.

You see, the friend above wrote us that we had not sent his starters. As soon as his letter was received, his correspondence had to be looked up, then a clerk hunted up the order for his fdn., and carried it back to the wax-room. After hindering several hands, as well as getting proof from the shipping clerk that the goods were certainly inclosed, we wrote back that he must be mistaken. The above card is the answer, if I am correct. Now, the moral is this: Do not let anybody else open your goods for you. Take your box on a clean bench or table, and then with invoice in hand go over each article. After you see that every thing is correct, then let your brothers or any other persons handle them all they please, and lay them around where they like. Another thing: Many business houses, as you know, print on the heads of their invoices, "No claim for damages or shortage allowed, unless made immediately on receipt of goods." I have often thought of doing so, but I disliked it, because it seemed hard. Those in the mercantile business very soon learn by sad experience the importance of inspecting and checking all goods before anybody can handle them. But I am afraid our bee-friends, many of them, have not yet learned this. In our establishment, sometimes new clerks think it pretty hard because I object to their touching a box of goods until the proper clerk has first inspected them, to see if they are all right. When I try to explain the matter, they smile at the idea that they are not capable of checking off a bill of merchandise. I have found that it takes a smart clerk to open goods and put them away, and not make mistakes. If you make an order yourself, you yourself ought to know whether you have got just what you ordered; but let another person undertake it, and there will almost always be misunderstandings.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

WHO IS MY NEIGHBOR?—LUKE 10.29.

LAST month I talked something to you about avoiding quarrels and difficulties with your neighbors. I told you to try to be pleased with them, and not get into a fault-finding way. There is, however, another side to this matter, and a sad side, although perhaps our juvenile friends do not have much to do with it. We are sometimes obliged to be disobliging to our neighbors, and to give pain. You may wonder at this, children; but I think I can illustrate it to you. Several years ago Ernest had a little playmate of whom he thought a great deal. But this playmate would persist in swearing. I presume he had heard his father swear, and perhaps his mother had not been very vehement in rebuking him for swearing, so he got into a habit of swearing very badly. What should Ernest do? It was a pretty hard thing for the little fellow to do, but he did finally tell his little playmate that his mother said he must not play with him unless he stopped swearing. Now, Ernest enjoyed games as much as anybody, and he hated to seem uncourteous, or "stuck up," as some of the boys might express it. But he did drop their plays several times, and went home until his young playmate got so lonesome that he promised him not to swear any more, if he would come and play with him again.

As we grow older, we find hard and difficult things to do in this same line. I once promised, with four other men of our town, to make complaint of every case of drunkenness I saw on our streets; but when I gave the promise I spoke like this:

"My friends, it will be a hard thing for me to do, but I will do it on this condition: That I first go and see the man whom I find intoxicated, at his own home, and have a talk with him, when he is sober, and tell him what I have decided to do, in case he does not stop being seen on the streets in that condition."

Very soon after, I met a man whom I knew well, staggering through a busy street in the middle of the day. I went to see him, and had a neighborly talk with him; and before I left, he said if I saw him again in a state of intoxication on the streets, I might have him arrested. He kept sober a few weeks, but finally he forgot his promise, and I saw him reeling from one side of the street to the other. I was as good as my word; and as the other friends made similar arrests, in a little time it was pretty well understood that the town of Medina, at least, would not permit intoxication on the streets in open day. The result was good, without any question, but it has made me enemies among a certain class, and I presume they will be enemies till the day of my death. One can not be a *consistent* follower of the Savior, and go through the world without some trouble and hard feelings, and many times without making neighbors feel very bitter and hard. I have often pondered on this, and I have watched the lives of great, strong, good men, to see how nearly they could go through life and live at peace with all men, as Paul advises. One may get along in the world by letting things go about as he finds them; but if he takes hold of the work of rebuking sin, he must meet trials and difficulties. I have often told you of the pleasant friends and neighbors we have here in our factory. I have told you, too, how many times I have thanked God for sending to me such pleasant neighbors and companions; but yet, dear children, it is not all pleasant. As a rule, those who have once worked here prefer to stay; and although occasionally a boy or girl wants to go away, as I shake hands with them in parting, I sometimes tell them that they will probably come back again after a while, and they almost always do. Even our girls after they get married, frequently come back and want to take their old places. We are rejoicing now in having our friend Ida with us again, although when she got married and went away last summer we hardly expected to have her among us again. Such things are a comfort to me, for it indicates that those who go out on the world and try getting work elsewhere seem to miss the pleasant associations and influences of our home here, as it were; and it always does me good to receive a letter from one of our former helpers, asking if he can not have his old place back again. Now about the unpleasant part.

Employing, as we do, over one hundred different people, of all ages and dispositions, it would be strange indeed if it did not happen now and then that the good of the establishment makes it necessary that some one of the number be suspended, or dismissed altogether. How shall this be done? How shall a Christian employer tell one of his helpers he can not keep him any longer? Of course, the first thing to do is to go to him as I went to the drinking man, and tell him plainly and kindly what he may expect if he does not amend. More than that, the employer should be patient and long suffering, and not until he is fully satisfied that there is no hope of amendment should he decide upon a dismissal. How can such a thing be done, and be done with kindness? or, indeed, can it be done at all so the one dismissed will take it kindly? With sadness and sorrow I have been obliged to decide there *is* no way. If the one who is reproved or rebuked is trying to do right, there probably will be no trouble; for a Christian will take reproof meekly and quietly, and without hard feeling, even though the reproof be undeserved and unjust. Do you know what Peter says?

> What glory is it, if, when ye be buffeted for your faults, ye shall take it patiently? but if, when ye do well, and suffer for it, ye take it patiently, this is acceptable with God.—I. PETER 2:20.

One who deliberately proposes to do wrong, however, will usually take reproof or rebuke in a hard and revengeful spirit, and will lay up and cherish hard feelings, many times for years. I have often been called very patient, and in some respects I presume I am patient, especially since I have been trying to serve the Master; but yet there are few things I have prayed more earnestly for than for more charity, more love, and more forbearance with my fellow-men. I have heard my mother say, that when I was but a wee child, busy with my playthings on the floor, I was remarkable for my wonderful amount of patience. The older children sometimes used to have sport with me by trying to see how far my forbearance would go. They would tear down my machinery and houses, and with great pains and meekness I would go to work slowly and build it all up again. If knocked down once more, I would probably let it go, and go to work and do it all over, and so on, till a stranger might be tempted to think I had no spunk at all. But my mother, who knew me better, said she always knew that my patience would hold out only to a certain limit: if tried beyond that limit, or until I was thoroughly aroused, I became a tiger, almost, with passion. I then frightened the whole household by the vehemence and unscrupulousness with which I grasped whatever might be at hand, and soon made my persecutors flee as if for their lives. Long and patiently did my kind mother strive with me through my earlier years, to beware of this bad temper; and in later years I have learned by the grace of God to keep down these feelings (even when I felt that forbearance had ceased to be a virtue, as the saying is) and, instead of breaking forth vehemently, to do what must be done, with meekness and gentleness, and I think I have been enabled to do the latter pretty well. But of late, God has been teaching me another lesson; and that is, to rebuke sin and wrong when it *first commences;* to speak out plainly and decidedly, although kindly, when things just commence to go wrong. And just now, dear friends, old and young, my most earnest prayer is for grace and wisdom and understanding in this very hard and difficult matter of protesting against sin and wrong wherever it comes within my province to do so.

> **Be not afraid, but speak, and hold not thy peace: for I am with thee, and no man shall set on thee to hurt thee.—ACTS 18:9, 10.**

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HOW I BECAME A BEE-KEEPER.

SOMETHING ABOUT BEE-KEEPING IN OLD TIMES.

WHEN I was quite a small boy, father took a colony of bees of a neighbor living about a mile distant, to keep on shares, each to have half of the increase and half of the surplus honey. I suppose the older readers, if not the juveniles, know that in the early days of bee-keeping the surplus was mostly taken by killing the bees in the fall, with the fumes of burning brimstone, and then taking whatever honey they had laid up for winter. Thus, when fall came, the neighbor and father would look over the bees, and decide how many and which colonies should be killed, after which the honey obtained was divided equally between them. If more was obtained than was necessary for family use, a portion was taken to our nearest village (this being always the best part), and exchanged for groceries, boots, dry goods, etc. I well remember the pails of beautiful snow-white comb honey father would carry to town, which was obtained from second and third swarms, thought to be too light to winter, while all the darker combs, and those filled with bee-bread, were left at home for our consumption, to be used in the shape of "strained honey," the straining of which was the part allotted to mother. This was done by chopping up the combs till every cell was broken, and then putting into a bag made of thin cotton cloth. This bag was now hung up close by the fire, and allowed to drain all it would into a vessel placed underneath it. The quality of this honey was pretty fair; and if no dark honey was in the combs it would approximate very closely to our white extracted honey. After all had drained out, which would do so by hanging by the fire, a large pan was placed in the oven, and several long sticks placed across the top, when the bag was placed on the sticks. The oven was kept as warm as possible and not melt the wax very much, and in this way quite a quantity of rather inferior honey was obtained, after which the bag and contents were placed in a kettle of warm water and worked till all the sweet was got out. This water was now boiled down, and, when as thick as molasses, stored away to make apple pies, etc., with.

To look back now to my boyhood days, it seems to me those pies, etc., sweetened with "honey water," as we used to call it, had a taste superior to any we now have, made with our best granulated sugar. Another thing I wish to say right here is, that we often read, where strained honey is being compared with extracted, that the latter is the clear nectar of the flowers, free from all impurities, etc., while the former is a mixture of filth and honey, obtained by mashing dead bees, brood, and bee-bread, together with the combs of honey, and squeezing the whole through a cloth. From all the knowledge I have, I would as soon risk the cleanliness of strained honey as that of extracted; for at our house, nothing looking like dead bees, brood, or filth, was ever allowed in the sack from which the honey was strained, while I have seen hundreds of disgusting-looking larvæ, together with the food given them, floating on a vessel of honey where extracting was being done from the brood-chamber of the hive. The killing of the bees to get the combs, the destroying of the combs, the mixing of light and dark honey, and the slight taste of pollen, was all I could ever see which was objectionable to strained honey. But, to return.

After a few years the bees from the first colony above referred to had so increased that a division was made, and the neighbor took away what belonged to him. I was now large enough so I could watch the bees; and during the months of June and July, whenever I was not at school, I was stationed near the apiary from 10 o'clock till 3, to look for swarms. I often got tired of being thus confined; but as father thought that all should bear an equal share of the burden of supporting the family, I was kept at my post instead of being allowed to roam the streets and fields with other boys. About this time, father concluded to try to get his surplus honey by placing large boxes holding from 15 to 20 lbs. of honey on the hives. These were placed on top of the hive, or at the side, as he thought best. On one occasion he hived two swarms (which clustered together) in one hive, placing thereon one 20-lb. box on top, and two 15-lb. boxes one at each side. To place them at the side, the hive was raised on half-inch blocks, and a slot was cut in the bottom of the boxes, ½ inch by 8 inches, and these slotted sides placed next the hive. The result was, that he took four 15-lb. boxes at the sides, and cut the 20-lb. box from the top, making 80 in all, ¾ of which was procured at the sides. After this he boxed most of his hives at the side; and from his success with such large side boxes, I took the idea of using the wide frames, interchangeable from side to top, as I now use them.

About this time, one morning when father was about leaving home on business, a small second swarm came out; and as he was in a hurry, I persuaded him to let me have the swarm, upon consideration that I should hive it. Heretofore I had never hived a swarm, and it took some little courage for an 8-year-old boy to climb to the top of a tree to get a swarm of bees for the first time; so I thought, at least. Well, I hived them and watched them, going every day to the hive to see them work; and when fall arrived with cold nights, I used to tap on the hive for the "good-morning" answer, which was always sure to come. I went one morning, tapped on the hive as usual, but no response, and the hive sounded hollow and empty. I tipped it up and peered in, but no bees, and combs were there, as my eyes usually beheld. Only the box remained, for some person (I came near saying *villain*) had taken the hive to the woods the night before, and killed the bees, and taken the honey, as the charred and combless hive proved. Then my bee-keeping came to an end for some time. That dread disease, foul brood, got into the apiary, and in two years father had lost all his bees by it. After a period of 14 years, I started in bee-keeping on the improved plan, and in my next (April JUVENILE) I will tell you about how I began. G. M. DOOLITTLE.

Borodino, N. Y., March 1, 1884.

Well done, old friend. It would seem from the above, that side-storing boxes are quite an old idea; and if your father was not the *first* inventor, he was at least *one* of the first. It does seem to me as if a large colony, one that is disposed to cover the whole outside of the hive in the height of the season for instance, would do more work with an opportunity to store at the side of the brood, than it would if they were obliged to work altogether in boxes placed above. I suppose the size of the frame has something to do with this, however, and that a very shallow frame might give almost as good results with the boxes all above, while a tall frame, or even a square one like yours, might require surplus room at the sides to get the same advantage.

EXTRACT FROM AN OLD BEE-BOOK.

HOW THEY TAKE HONEY FROM THE APIS DORSATA.

A LARGE swarm of bees had fixed their abode on the ceiling of a verandah, and when their honey was deposited, we wished to collect it, but were for some time at a loss for the means. Hearing, however, that there was a gardener who possessed a peculiar art of doing it unhurt, he was sent for, and desired to bring down the honey. I watched him, and believe he used no other precaution than the following: He took some of the plant called toolsey, and rubbed it over his body, face, arms, and hands; he then chewed a little, and held a sprig of it in his mouth; and with no other than this apparently slight defense he mounted a ladder, a large dish in one hand, a sharp knife in the other; and although very thinly clad, with thousands of bees swarming around him, he with the greatest coolness cut through the upper part of the comb where it was suspended to the roof, receiving the whole of it in the dish, and brought it down without having received a *single sting*.

This is copied from "Indian Reminiscences in the Bengal Moofussue," that same old book published in 1838, in England. ROSEY SMITH.

New Hamburg, Ont., Can., Feb., 1884.

LITTLE AH SID.

A LITTLE CHINA BOY'S EXPERIENCE WITH THE AMERICAN HONEY-BEE.

Little Ah Sid
Was a Chinese kid,
A cute little chap, you'd declare;
With eyes full of fun,
And a nose that begun
Right up at the roots of his hair.

Jolly and fat
Was this frolicksome brat,
As he played through the long summer day,
And braided his cue
As his father used to
In Chinaland, far, far away.

Once o'er a lawn
That Ah Sid played on,
A honey-bee flew in the spring.
"Melican buttelfly!"
Said he, with closed eye;
"Me catchee and pull off um wing."

Then with his cap
He struck it a rap,—
This innocent honey-bee,—
And put its remains
In the seat of his jeans;
For a pocket there had the Chinee.

Down on the green
Sat the little sardine,
In a style that was strangely demure,
And said with a grin
That was brimful of sin,
"Me mashee um buttelfly sure."

Little Ah Sid
Was only a kid;
Nor could you expect him to guess
What kind of a bug
He was holding so snug
In the folds of his loose-fitting dress.

"Ki-ya! ki-yip-ye!"
Ah Sid cried, as he
Rose hurriedly up from that spot.
"Ki-yi! yuk-a-kan!
Shame on Melican man—
Um buttelflies velly much hot."

San Francisco Wasp.

THE DISCOVERY OF SILK.

COMPILED AND WRITTEN BY NELLIE LINCOLN ROSSITER.

Continued.

AT a later period, Spain and Portugal received from their Arabian conquerors the art of fabricating silk. It was in 711, under the Caliphs, that the Saracens conquered Spain; and they soon taught the inhabitants of that country to improve their agriculture, their manufactures, and their arts. "With the same vigor," observes Professor Dresch, in his Universal History, "with the same earnest zeal with which they fought for more than a century, they pursued the cultivation of science, under the auspices of the great Caliph Haroun al Raschid," the contemporary of Charles, and his son Al Mamun. These sovereigns regarded it as a maxim of policy, that the welfare of a nation consisted in its civilization. The Koran had classed agriculture, industry, and commerce, among the good deeds of the believer. Like the Roman senators, who took their surnames from the plants which they had principally cultivated, as, for instance, the Fabii and Lentuli, the Arabian chieftains were fain to adopt, in the quiet of their private lives, names alluding to their skill in some manual industry; though at that time, Central and Western Europe knew of no other pleasure than that derived from war, from wine, and from the chase. Charlemagne was the only sovereign who made any provision for the cultivation of the mind; but the benefits he conferred terminated with his life; and, from that time, the Arabian empire was the only seat of science, industry, and civilization. We owe them much in regard to agriculture; we are indebted to them for the manufacture of paper; for the expression of quantities by figures, and for many improvements in the art of dyeing; nay, our language bears numberless traces of the inventions transmitted to us by the Arabians. The historian and bishop, Otto de Freysingen, speaking of the great progress which silk manufactures had made in Spain, relates that, after the siege of Milan, Frederick I. held a diet of the empire, in 1158, in the fields of Roncaglia, at which were present, in magnificent attires, the ambassadors of the Genoese, who recently had conquered from the Saracens two important cities, Lisbon and Almeria, both famous on account of their manufactures of silk, and had made a rich booty. The later wars, and the defeat of the Saracens, might have been the cause that this species of industry did not pass the limits of the Spanish Peninsula, and fell partly into decay; for it can not be doubted that the rest of Europe received it from Greece." Greece remained for a long time in the possession of the silk culture, and it seems that the Saracens were never acquainted with the breeding of the worms, and were skilled only in the art of manufacturing beautiful stuffs from the raw silk, which they received from the great emporium of Bagdad. The war of 1146 introduced that culture into Italy. According to historical authority, Roger I., the Norman king of Sicily and Naples, hearing that the great Emperor Manuel Comnenus was negotiating an alliance against him, with Conrad III. of Germany, resolved to send an ambassy to Constantinople, in the hope of averting the danger which threatened his power, and to propose a matrimonial alliance with one of the daughters of the Emperor; but Manuel threw the ambassadors into prison, and Roger, having accordingly collected his land and maritime forces, was so fortunate as to conquer successively Corfu, Cephalonia, Negropont, Corinth, Thebes, Athens, and several other cities and islands of Greece; from whence he carried with him into Sicily an immense booty, and several thousand captives. Among the latter were a great number of persons acquainted with the culture and fabrication of silk. Roger gave orders to treat them with much kindness, and persuaded them to settle in Palermo, offering them the most advantageous conditions. They introduced there their useful industry, and opened manufactures which soon acquired great celebrity; and from thence it was transmitted to the Calabrians, and at length propagated through the rest of the kingdom of Naples.

MR. LANGSTROTH.

MRS. HARRISON TELLS US ABOUT HIM AT THE CONVENTION.

DEAR JUVENILES:—When I was at the bee-meeting at Chicago, I looked around for you; and, sure enough, two of you were there. No girls, but one boy in petticoats, and another in knickerbockers. The little one will not remember being there, but the one in knickerbockers will; and when he is an old man, and a grandpa, he will tell how, when he was a little boy, he went with his father and mother, in 1883, to Chicago, to a bee-meeting, and saw Mr. Langstroth.

Some of you will say, "Suppose he did see Mr. Langstroth, and we didn't, what of that? And what makes bee-keepers talk so much about him?" Well, children, when my grandfather, and your grandfather, and their grandfathers before them, kept bees, they kept them in hollow logs, and they didn't get nice white honey as we do. In the fall they would lift their "gums," as they called their hives, and see if they had honey enough to winter upon; and if they thought they had not, they "tuk them up," as they called it. They first dug a hole in the ground, and dipped some dry sticks in melted brimstone, and put the sticks into the hole; set it on fire, and placed the gum over it. In a few minutes the bees were dead, and then they cut the honey out. Sometimes they got a little nice white honey; but most of it was dark comb and bee-bread. What a time the grandmothers had straining the honey! They kept a bag of it before the fire for days, so it would drain out.

When Mr. Langstroth was a boy he watched insects and ants, to see what they were doing, and thought a great deal about them. And when he grew to be a man, he taught my father, and your father, and everybody's father, how to keep bees in movable-frame hives, like those we all use now. Don't you think it makes Mr. Langstroth happy now, when he is an old man, and a grandpa, to know that people all over the world are made happy by him? And will you not all try to do something useful, even if you *are* little children?

Peoria, Ill., Feb., 1884. MRS. L. HARRISON.

A TALK ABOUT ALASKA.

BY ONE OF OUR FORMER OFFICE GIRLS.

DEAR MR. ROOT:—Taking such a deep interest as I do in every thing juvenile, I can't resist telling your little ones some very interesting facts that I learned from a missionary sermon yesterday, on Alaska. The speaker, Dr. Sheldon Jackson, an eminent missionary, illustrated by maps that almost God-forsaken place. I say "God-forsaken," because our government has never taken the trouble to establish schools there, so the majority of inhabitants know nothing about the Bible, and have no one to tell them about their Savior.

In the extreme south-eastern section, some few missions have been established; and here, too, the Russians have built a few Greek churches. Where the few missions have been founded by our church they are crowded, and the glad tidings of salvation they disseminate flies from village to village, until chiefs with their entire tribes forsake their comfortable homes and come flocking to these missions to hear about the "man who came down from the skies to take the *bad* out of men."

But first I must tell our little friends about the people of this desolate region. The entire coast line of Alaska is inhabited by a peculiar people called the Esquimaux, about whom you have doubtless heard so much — a hardy race of people, strong, and many of them over six feet in height. If only civilized and educated, they would be of great use to us in our marine service. Further inland we find tribes of Indians with awful names, which, if I even made out to spell, I am afraid you could not pronounce, so I will not try it. And here it is where schools and missionaries are needed so badly. What do you think, my little friends, of a man when he comes to die, having a female slave killed first, so her soul shall penetrate the "dark region" and prepare a place for him? Yet such is the case; and here, in direct defiance of our own laws, in this land of the *free*, slavery still exists, and men and women are yet in bondage — in Alaska. What do you think of old women, in this enlightened age, under the stars and stripes, being burned for witchcraft? When a man gets tired of his own mother, he leads her out of her own home, kills her, and leaves her remains for the dogs. Mothers take their offspring into the woods and leave them to the mercy of the wolves, in preference to their living and suffering the degradation *they* endure; and to this day, when these poor people wish to avert some threatening disaster, such as glaciers, etc., they offer up *human* sacrifice. Generally, female slaves are used for this purpose. The government has forbidden the importation of liquors here, so it is smuggled up from San Francisco in bottles labeled "Jamaica Ginger," "Florida Water," etc. Why! but a short time since, the inhabitants of one of those small islands off the coast of Alaska traded all their furs for liquor, and spent the entire summer in drunkenness; and so, when the winter season came on, having no supplies laid in, hundreds of men, women, and children literally starved to death. Isn't this terrible? And yet for sixteen years the great men of our nation have permitted these things; and even now, while they talk of so much money in our Treasury that even they know not how to expend it, no thought of establishing schools for the enlightenment of these poor people, who are still away back in the Dark Ages, ever seems to occur to them. An effort is now making to brighten their intellects a little, and a bill will soon be brought before the House for the establishment of schools in Alaska.

Dr. Jackson closed his able discourse with the prayer that every effort we all could make, either in work or prayer, would be to the effect that speedy relief might soon be given these poor people who are living and dying so, in sin and ignorance.

Washington, D. C., Feb. 4, 1884. BESS.

RECOLLECTIONS.

NOT ALL ABOUT BEES.

I DON'T think, like some old men, that children and grown-up people don't enjoy themselves as they used to in olden times. I think human nature is the same now that it was when old men were boys. Years upon years have made individual changes. Boys now delight in the same sports boys did fifty years ago. Empty a boy's pocket then, and what would you find? A perfect Noah's ark of articles—broken knives, marbles, leather strings, rusty nails, pin hooks, and fishing-lines, old buckles, pieces of flint, and all sorts of other articles, of no value whatever.

They would then go out to mud-puddles, and make mud pies and images, and set them on bark in the sun to dry; gather hickory-nuts and walnuts in their hats; yes, and pack rocks, too, in their old wool hats to throw at squirrels.

I am pretty sure the hats in those days were better made than they are now. A hat then went through a whole season. I have left mine out over night when a rain would come up, and in the morning I would find it full of water to the brim, and holding almost equal to a tin pail. By such usage they would lose their shape, and "go to seed," as they then called it, shaping themselves like the loaves of white sugar of the long ago, that were wrapped in stiff purple paper. They lengthened and strengthened.

Boys had dogs then, and but few boys were so poor as not to have a dog they claimed as their own property. During the summer months, on Saturdays, the boys of the neighborhood, by previous arrangement, would collect together and go through the woods with their dogs, hunting snakes, turning over old rotten logs and stumps for field mice and moles, and climbing partly decayed trees in search of flying-squirrels.

One of the favorite sports at that season of the year was in breaking up the nests of bumble-bees. Armed with a clapboard paddle and bunches of pennyroyal or elderberries, they had fun, and many an eye has suffered in darkness for two or three days on account of an evening's sport with the bumble-bees.

The dogs were generally put in on the first charge. The bees were first stirred up and out, and then a general throwing of chunks, sticks, and rocks, at the rest, with "sick him, sick him, sick him!" and a clapping of hands. Not knowing what was up, the dogs generally were prompt to obey, and rushed in to where the sticks were thrown.

Dogs are like men and boys in this—they have different dispositions. When the bees commenced to alight upon and sting them, some would stand their ground, and whirl round and round, snapping at the bees until they would be almost covered before retreating. Others would lie upon the ground and roll over and over, and keep on rolling. Some others would go straight to their masters, covered with stinging bees, and try to rub against them to rid themselves of the bees, while others would tuck their tails and make a bee-line for home. It was fun for the boys, but it was a very foolish young puppy that could be coaxed into a second charge.

Murfreesboro, Tenn., Feb. 18. UNCLE BILL.

BROTHERLY KINDNESS.

IS IT AS COMMON AS IT OUGHT TO BE?

DEAR JUVENILES:—Mr. Root was telling us how it pleased him to be called "Brother." I often think what a beautiful thing brotherly love is—not alone as shown to all mankind, but such as I have seen manifested between two brothers of one family. True love between brothers and sisters has been seen so often as to hardly cause comment; but *strongly* manifested love between brothers is rare.

I know two brothers, now grown up, who always seemed to think so much of one another that, no matter how often they met through the day, they always had a pleasant greeting for each other. A favorite greeting, when not near enough to speak, was a peculiar whistle, which was always responded to, under all circumstances. Once when the younger had been away from home for several months, the elder had business in the same city, and so without telling Charley he was coming, he inquired for him at his boarding-place, and was told that he had gone to the park, near by. So he started out to find him. As luck would have it, he saw (or thought he saw) Charley among some people several rods away. Giving his greeting whistle, you should have seen Charley jump, said my informant merrily. The sound came so unexpectedly to him that he jumped two feet, and you may be sure that he was not long in reaching his brother's side. Other instances I could cite, but that always made a warm spot in my heart for those two boys. Some think it foolish to show love; but honest love is lovely, and some may laugh when love is shown; but in their hearts they would like just such love shown them. So, children, do not be ashamed to show your love, and cultivate the feeling for God and all mankind.

About 20 miles from here is a lovely falls called the Najoqui, pronounced *Nah-no*. We went up there last Sept., and I am sure you all would like to see it. One of our party said he did not believe it would pay to walk a quarter of a mile up hill to see some water fall over some rocks; but we persuaded him to go with us. So he hitched his horse with the rest of them, to some sycamore-trees, whose white bark was literally covered, as far as could be reached, with the names of those who had come to see the falls. The path is a gradual ascent, often crossing the brook made by the water of the falls. After going up about a quarter of a mile we came to a sheer wall 160 feet high, and about 50 wide, whose entire face is covered with lovely ferns and moss. Down the center, like a lovely silver ribbon, the water falls. Even our indolent friend exclaimed, "How beautiful!" Beautiful indeed it is, causing feelings of thankfulness to God for making such beautiful things. Then the cry came, "Oh! I must have some of that moss and those ferns." For about 5 feet the wall has been dug away and taken away little by little, but the moss and ferns keep covering up the broken places, making it lovely, in spite of vandals. A sign is placed near the falls, telling the height, and asking visitors not to deface the walls. The water comes from a spring close to the wall. MRS. HILTON.

Los Alamos, Cal.

I have often thought of what you say, my friend; and as I look back to my own boyhood, I feel rebuked to think that I was sometimes cross and short to my brothers. I had one older and one younger. One little incident comes back very often to my mind as I look back through the years. It is a trifle, but it will help me to illustrate what I wish. One morning we were awakened rather early, to go to work in the hay-field. I do not know but we all felt a little cross for being broken of our slumber. As we came down the old stairs, "Jess," my younger brother, remarked:

"Ame, your suspender is twisted."

Of course, I ought to have thanked him for it by looks, if not by words; for even if I did not notice it then, it would probably feel uncomfortable after a while. What do you think I did do, my little friends? I replied gruffly, "Well, that is *my* business." He did not say any thing, and we went out to our work; but I have thought of that speech many and many a time; and since I have grown up to manhood I have written to Jess and asked his forgiveness. But for all that, I would give ever so much to have the privilege of taking back that rude, coarse speech. Speak gently, boys, even if you *are* awakened at unseasonable hours, and you will thank me for this little advice in after-years.

ONE OF THE JUVENILES WHO ATTENDED THE TORONTO CONVENTION.

HOW I MADE A MISTAKE OF 12,500 BASKETS OF PEACHES.

WELL, Mr. Root, I am pretty much interested to-night—so much so that mother sent me after a pan of flour and I brought her a pan of meal, and then I had to go back. I was looking over some of the back numbers, and I came across the October number, in which was the report of the Toronto Convention, in which you told us what you saw from Medina to Toronto. Pretty good it was too; but it made me feel a little bad when you told us about that man in Buffalo who made the remarks about his family when he drank that poison whisky, for I am all temperance.

Well, now, about Niagara Falls. You got only a small view of the Falls on the cars, for I think if you would stop and look around you would change your mind when you see what nature has done. Now about Niagara, and that 15,000 baskets of peaches that that fellow told you there were. Well, he was just about 12,500 out of the way, for the captain said there were about 2500 baskets, and about 700 passengers on board, which makes a good load for that boat. A few of those nice peaches on the boat were from our orchard.

Well, you will like to know how I know. I was there, and friend Moon too, for we were bound for the convention, for we live just across the river. I said friend Moon, and so it was, if it was a man and boy, for we both keep bees. When the train came down, I looked to see if I could see any one who had a ribbon on his coat, with a bee on it, but could not. I think it would be a good plan if A. I. Root would wear something different from other folks (when he goes to conventions), so we could tell him; but the next day I made out to get a sight of him; for when I first went into the apiarian building, I looked around to see Mr. Root, but could not. Pretty soon a man says, "Where is Root? I want to give him a taste of this honey;" and another fellow standing by him says, "Oh! Root is like bad weather." But pretty soon up he comes, and gets a taste. "Pretty good," he says. Well, I should judge it was, by the looks of it. It was wonderfully clear.

Now about my bees and honey. Started in with 4 stands; increased to 13, all in good condition; got only about 100 lbs. of honey; bought lumber to-day to make my hives. AUGUSTUS MORRIS.

Youngstown, N. Y., Feb. 12, 1884.

Friend Augustus, you ask why I did not tell who I was, or wear a badge with a bee on it. Why did you not tell me who you were? or, in other words, why didn't you come right up to me and say, "Mr. Root, I am Augustus Morris, a boy bee-keeper, and I have wanted to see you"? That would have been just what I wanted to hear when I was away up in Canada, away from my own people. Some of them did say so, it is true, but I presume there were a good many others who, like myself, felt a little bashful and backward about making themselves known. On some accounts I should like to wear a badge, and then, again, it makes one look a little conspicuous, and I always dislike to crowd myself anywhere. I found some very warm friends indeed in Canada, and especially do I remember some bright-faced boys whom I should long to get better acquainted with, so I might remember them when they write to me.

AN INGENIOUS SUGGESTION BY A NINE-YEAR-OLD JUVENILE.

REMOVING DEAD BEES WITH THE EXTRACTOR.

ON the 2d of February, the sun shone bright, with a light warm breeze from the southwest; thermometer at 59°. Bees were flying at 11 A. M. as if in the height of the clover season. While looking at them and rejoicing, I noticed that there was something the matter with colony No. 16. On opening it I found the bees dead—queenless—and that the bees leaving and entering it were robbers. I closed the entrance until evening; then I examined it, and found that they had about 20 lbs. of capped honey yet, and that the bees, about one pint, were all in the cells of one comb. While I was picking out the dead bees with a pin, my son (the only one) 9 years of age said, "Pa, why don't you put the comb in the extractor, and throw them out?" I told him the wire would prevent it. "Well, can't you fasten it on the outside of the wire?" The idea was a good one, so I told him we would try. I tied the comb to the outside of the comb-basket, so that in turning, the top-bar of frame (Langstroth) would follow the bottom-bar, and, to my astonishment, about ¼ of the bees were slung out of the comb against the can, rattling as if shot were thrown against it; but the rest would not come. I put the comb in a warm room. A few days after, I tried again. This time it cleaned the comb. Did you ever try it? I wish that those who lose bees, and which stick in the comb, would try to report. The reason it did not do its work effectually the first time was the bees were swollen by the dampness of the hive; but after the dampness was gone, they could be easily ejected, because they became smaller by shrinking. JOHN W. STURWOLD.

Haymond, Ind., March, 1884.

Friend S., tender my thanks to your 9-year-old hopeful for his very ingenious idea. Many years ago one of the friends invented a pair of pincers with which to pull dead bees out of the combs. I presume that more than one of our friends have tried the job, and gave it up in disgust. If you get hold of a dead bee's wing, you can usually pull him out; but, oftentimes, off comes the wing, and then half of the body, and he is not out yet; and, worse still, even if they come out nicely, it is a pretty big undertaking to pick a swarm of bees out of the combs with one's fingers, or even with the pincers. The boy's idea is away ahead of it, especially after your improvement of drying the bees so they will come out easily. Perhaps if they were dried enough they would jar out. But now after all this talk about it, why not just hang them in the hive and let the bees do it? They work cheap, and seem to have the knack already learned, for I have known an active swarm of bees to clean out and fix up and scrape off the mold from an old comb, and get it partly filled with honey, in just one afternoon. Circumstances, however, might make it quite handy to do it with the extractor.

JUVENILE DEPARTMENT

Every girl or boy, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock, six different books, as follows: Silver Keys, Sheer Off, The Giant Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

"A chiel's amang ye, takin' notes;
An' faith, he'll prent it."

WELL, children, here it is spring again. Very likely the bees are flying some with many of you. I notice your letters are flying briskly, for my drawer, labeled "Juvenile Letters," has got so full that "Kitty" (she is the clerk who distributes the letters, you know) can hardly get any more letters into it, so you see I shall have to begin again picking out the most valuable letters. That seems a little hard, but I guess it is a good thing. It is a good old maxim, that "competition is the life of business," and sharp competition does us good in almost any kind of work. In your case you will find that, in order to see your letters in print, they must be good ones; that is, they must be something new and something valuable. Yesterday one of the juveniles wrote a short letter, and commenced: "I thought I would take my pen in hand to drop a few lines to let you know that I am well, and hope to find you the same," etc.

Now, little friends, there is not any need of telling me that you take your pen in hand; because when I see your writing, I should know that already; and besides, it is an old hackneyed phrase. I would try to avoid hackneyed phrases. Don't try to copy other folks. Just be yourself. In a letter just now before me, an 11-year-old chick starts out: "I thought I would write you a few words about the bees." Now, do not think that I am scolding, or finding fault; but such words do not tell us any thing, They only tell us you thought of writing, which we know already, if you write. If you do not write, of course we don't care any thing about it. I have had to talk quite a considerable to some of the older ones, because they were inclined to tell more about what they *thought* than what they *did*. Now, then, would it not be better to tell us more about what you have done, or seen somebody else do, than to tell what you have thought? Thoughts are good, of course; but they are seldom worth putting in print until they have been worked out practically into actions. When we get new clerks in the office I have sometimes told them when they write to anybody, to pitch right into business, and not stop for formalities. You will notice our postal cards and letters to you go right into the business before us all at once, without any "Dear Sir," or prefaces of any sort. And where room is crowded, and there is so much to be done, I think it is the better way. Of course, I refer to letters on business. When you are writing to friends, it is a different matter. Another thing: Some of the juveniles seem to think they must write a long letter. Never try to make your letter long, unless you have something valuable to write. In fact, it takes a great amount of my time to cross off a great part of what many of you write.

Now let the little letters come like the snowflakes flying outdoors, if you choose; but let us have them short and bright. I think, as a rule they ought to be a little larger than a snowflake; but one side of a small sheet of paper will be enough, as a general thing. Now, then, go ahead.

NO TOBACCO.

We have 14 hives of bees. Papa does not use tobacco, and I aim to always let it alone. Will you please send me the Giant-Killer?

JOHN MITCHELL, age 8.

Poplar Grove, Ind., Feb. 16, 1884.

SAMUEL'S LETTER.

I am a little boy 8 years old. My pa keeps bees. He has 40 stands. I like honey. I go to school, and read in the Second Reader. I have a pig, and I have one sister and three brothers. **SAMUEL HAMM.**

Kingston, Mo., Feb. 13, 1884.

Pa keeps bees. He has 98 colonies. He has them all packed for winter. He is going to put them in the cellar. Two years ago last spring we had only two. Pa made a litter, I will call it, to carry the hives with. **EDDIE STOUT**, age 12.

Brighton, Iowa, Nov. 30, 1883.

STELLA'S LETTER.

Our bees were out all day Sunday. I would like to know what they were doing. Our bees are all blacks. I have a little pet lamb; her name is Julia; she is the prettiest little thing I ever saw. She will come whenever I call her. **STELLA HOWERTH.**

Pin Oak, Ill., Jan. 15, 1884.

A SWARM OF BEES IN AN OLD HOUSE; REPORTED BY A 7-YEAR-OLD FRIEND.

I should like to see your little Huber. I have six brothers and one sister. Papa has 18 colonies of bees. One of my twin brothers, Jonathan, has one, which he found in an old house. I will send flower-seeds for Blue Eyes. If you think this is worth a book, send me one. **LIZZIE STUTZMAN**, age 7.

Girard, Ill., Feb. 19, 1884.

FRANCIS HUBER; BY ONE OF THE JUVENILES.

François Huber was born at Geneva, July 2d, 1750. When he was young he lost his eyesight; and some years after, he married Mlle. Lullin. Huber's first work was entitled, "Lettres á Ch Bonnet." It was reprinted in 1796 and 1840, under the title of "Nouvelles Observations sur les Abeilles," which means in English, "New Observations on Bees." Huber died at Lausanne, Dec. 21, 1831.

MARY M. GRAHAM.

Homer City, Indiana Co., Pa., Feb. 22, 1884.

100 HIVES OF BEES, AND ALL IN THE CELLAR.

I am a little boy 7 years old. My uncle, John Meyer, has nearly 100 hives. They are all in the cellar now. But it will be fun to see them in the spring when he takes them out. JOHNNIE WOODWORTH.

Wyandotte, Kansas, Jan., 1884.

EDWIN, THE BEES, AND THE DUCKS.

Pa has 41 stands of bees; all wintered very well. The queen that he got from you last summer died. He was afraid that the other bees would rob them, and told me to move the blocks back to contract the entrance; but just as I went to put it back, one of the bees stung me. My big white Pekin ducks are nearly as large as a goose, and have yellow bills and short yellow legs. Did you ever see any Pekin ducks? EDWIN F. GRUBB, age 10.

Key, Belmont Co., Ohio, Feb. 21, 1884.

HOW TO COOK TOMATOES; BY ONE OF THE JUVENILES.

My mamma keeps bees. We have 6 stands. We got 40 lbs. of honey. I will tell you how to cook tomatoes. Put some hot water on them, and scald them, and then peel them. Put them in a kettle, and let them boil awhile, and then salt and pepper them; butter them, and then put bread in it.

Feb. 20, 1884. CARRIE DARISSOUR, age 9.

Now, Carrie, I know that recipe is a good one, because I have seen my wife do the same thing—at least, as well as I can remember, and I should call you a pretty good 9-year-old cook.

HOW SHALL WE CURE A KICKING COW?

We have 7 horses and 4 cows to feed, and I have to go about a quarter of a mile to feed the sheep. Can you tell me how to break a kicking cow? We had one, and she kicked so that we had to sell her for twenty dollars. She was one-half Jersey, and she was a good butter-cow. I should like to come out there and see your bees, and see all your things.

FRANK MITCHELL, age 10.

Poplar Grove, Ind., Feb. 16, 1884.

Friend Frank, I am sorry to say I am not posted in regard to the most intelligent, humane, and Christian way of curing a kicking cow. While I think of it, I should be very glad to have Prof. Cook tell the boys just what to do in such cases. Now, friend Cook, won't you come out of the " harness" just a minute, and do some good by answering Frank's question?

CUTTING A BEE-TREE.

Papa has 9 swarms of bees, and I have one, and mamma has one. Last summer we went to cut a bee-tree, and we did not get the bees all that night, and we went back next day to get them, and they were not there. Papa looked around and found them on a tree, 50 feet from the ground, and I climbed up and cut the limb off with a knife, and carried it down, and got stung but once. Papa can't climb better than a cow. LENNY L. LUCAS, age 11.

Jewett, Ohio, Feb. 23, 1884.

Seems to me, my little friend Lenny, your illustration about your papa's abilities in the direction of climbing trees is not very complimentary. However, we suppose he is a grand good papa in other things, even if climbing trees is not his especial forte. I am glad of one thing, and that is, you got down safe without getting hurt.

FROM 2 TO 14, AND *only* 30 LBS. OF HONEY.

My pa had two hives of bees in the spring, and increased to 14. He got only 30 lbs. of honey. But he is working for increase more than for honey. He has hauled sawdust to set the bees on.

Perrysburg, O. SHERIDAN E. HOWER, age 13.

Why, Sheridan, if two colonies were increased to 14, and they lived through the winter, I should think 30 lbs. of honey was a pretty big lot, especially if the younger swarms (poor little dears!) did not any of them starve outright.

EDDIE'S COMPOSITION ON BEES.

Bees are a very useful insect. They make nice honey and wax. On cloudy days they make their wax, and on nice days they gather their honey. They are busy all the time. In the summer they swarm; and if the folks do not watch them they will take a shoot; and if they have no place to go to they will alight on the fence-rails and other places till they die. That is all I can say about bees. If you send a book, I will take "Harris on the Pig."

EDDIE SHERER.

Inwood, Marshall Co., Ind., Feb. 21, 1884.

That is a pretty good composition, Eddie, providing it were all true; but I am afraid some of it is not. We should be glad to send you the book you ask for; but "Harris on the Pig" is worth $1.50, and we give only 5-cent books for little letters.

CHARLIE'S REPORT.

One summer I found a swarm of bees on a blackberry bush, and my papa said I might have it; and from that one I got another swarm, and in the fall I sold them to papa for $5.00, and in the winter his bees all died but one swarm. My sister had four swarms of bees, and she sold her bees and honey, enough to amount to about $37.00, and papa put money enough with it to buy her an organ.

CHARLES GILMORE, age 12.

Georgetown, Wis., Feb. 20, 1884.

Well, Charlie, I should think you sold out to your papa in just the right time, did you not? Your sister's case illustrates how any young miss who wants an organ may get one; and if I am right about it, Charlie, I believe your sister appreciated it a great deal more for having worked for it, than if her papa had paid for the whole.

MYRTLE AND SADIE.

Pa has 23 hives of bees. He winters them in the cellar. We got about 1000 lbs. of honey. The bees did not do very well last year. I wish you would put your baby's picture in GLEANINGS, so we could look at it. I wish you would send me the Giant-Killer.

MYRTLE SCARLETT, age 9.

Papa says he is going to have me for his bee-girl. I used to catch bees, and play with them. Once I caught a black bee, and it stung me.

SADIE SCARLETT, age 7.

Anita, Cass Co., Ia., Feb. 22, 1884.

Why, Myrtle, I should be very glad indeed to have Huber's picture in the journal, but the engravers say they can not make good pictures of babies. Babies are so bright and sparkling and vivacious, that it would be like picturing a bird on the wing, almost, to get a good picture that would do them justice. May be I will try, however, when he gets a little older.

HOW TO RAISE TOMATO-PLANTS.

It is a better plan to raise early tomato-plants in small paper boxes than egg-shells, for the roots will have more room to grow. Cut a piece of stiff paper (a paper flour-sack is good) 5 in. square, then double up one inch all around. Double the corners in and tack with a needle and a thread, then fill with good rich mold, and one seed of any kind in a box; set them on a board, and keep in the sun, and water well. LULU E. GORDON.

Melvin, Ford Co., Ills., Feb. 21, 1884.

IRA'S EXPLANATION FOR THE CAUSE OF ABSCONDING.

Grandpa and I had 10 colonies of bees; but one of them came out yesterday, and united with one of Uncle Billie Sistrunk's, as ours and his are in the same inclosure. I think their mamma must have died and left them, and they couldn't keep house without her. Our bees are busy working on the alder-blooms. IRA MITCHAM.

White Sulphur Springs, Ga., Feb. 11, 1884.

Your explanation is quite ingenious, friend Ira; but if I am correct, bees as a rule never desert their hives unless the queen is with them. Don't you think it was because they got out of stores and could not keep house?

5-YEAR-OLD CORA'S LITTLE LETTER.

I HAVE A LITTLE SISTER, AND I HAVE TO ROCK HER TO SLEEP. I WILL PUT THIS IN WITH MY BROTHER'S. IF THIS IS WORTH A BOOK, PLEASE SEND ROBY FAMILY. SEND MY BOOK WITH MY BROTHER'S. CORA.

To be sure, your letter is worth a book, Cora, but you did not tell us where you live, and I am afraid our clerks were so careless that they let your letter get away from your brother's, and now we do not know where to send the book. Will you please tell us where you live?

My pa has three stands of bees. I will tell you how we got the first one. Ma and I stopped it as it was flying past our house one year ago last summer. It swarmed four times last summer; three we hived, and one got away, and one of them has since died. It was a small one, and the moths got in it; but my pa says if he had had his A B C book sooner, he thinks he could have saved it. Since he has it he reads in it nearly every night. He says he did not know the first thing about bees, and would not part with his book for any thing, if he could not get another. I should like to see little Blue Eyes. I have a little sister with big blue eyes too.

ANNA M. GARBER, age 10.

Cazenovia, Ill., Feb. 13, 1884.

I am glad your papa likes his A B C book, Anna. I suppose this next little letter is from the little blue-eyed girl you tell about.

LETTER FROM ANNA'S BLUE-EYED SISTER.

I am going to school, and have been going ever since I was three and a half years old. I have a spelling-book and slate, and my teacher says I must get a Second Reader. I wish I could draw Huber around in his little wagon. NORA M. GARBER, age 6.

Why, Nora, do little girls go to school at three and a half years of age in your State? I wondered at such a nicely written letter for a girl six years old. Here in Medina they will not let them go till they are fully six years old, and Caddie is just commencing to go to school this spring. Does it not make you tired, my little friend, to go to school and study, as young as you are? Your little letter is written better than half of the letters we get, and we receive hundreds every day. Now let Uncle Amos advise you and your parents. Do not study too much, nor very long at a time. Go out and run around and play with the bees and the flowers, and take care of that little body of yours, and those precious blue eyes that God gave you.

HOW TO MAKE GINGER-SNAPS; BY ONE OF THE JUVENILES.

We have no bees. Mr. Ames has about 8 stands. He gets about 60 lbs. of honey. I will tell you how to make ginger-snaps. Two cups of molasses, one teaspoonful of ginger, one of soda, and a little milk. Put the molasses and ginger in a pan, and set it on the stove until it boils, and then put in the soda, and put enough flour in to make it stiff. Roll the dough thin, and bake in a quick oven.

Feb. 20, 1884. MARY RHOADES, age 11.

Well, Mary, very likely that recipe is a good one; but if you had managed some way to have some honey in it, it might have been a little more appropriate for a bee-journal. It is all right, however, and it is very well well done for a little girl only 11 years old.

A JUVENILE PEN-PICTURE OF A HOME CIRCLE AWAY DOWN IN TENNESSEE.

Brother received his wire and expansive bit on the 9th. Neighbor R. brought our mail. It was dark when he called at the gate for brother to come and get a hoop and a rattle-box he had for him. Last summer he told brother he had a coffee-pot somebody had sent him by mail. It was a smoker. Well, papers, letters, and all were laid by to see the bit. Brother opened the box carefully, putting the extra bit in his vest pocket. Now, to try it we had queen-cages at hand, so down on the carpet we went, mother to hold the lamp; brother, papa, and I each must bore a hole. Then we must try the other bit; brother felt in his vest pocket; no bit, but a hole. Brother's eyes are black, and way in his head; but, Uncle Amos, they looked mighty white and close by just then. Such a hunt as we did have on the carpet, in his pockets, in his boots. Papa went for the sand-sieve to sift the ashes in the fireplace, when brother happened to see he had a watch pocket, and in it a bit. If you could have seen us, and not heard us, it would have been a funny sight. Brother has lost 3 stands; 2 were queenless. Bees stay outdoors all winter about here. Brother's bees are raising brood; will soon have young bees flying. It has been very cold this winter. The thermometer stayed 12° below zero almost two days. Lots of people had ears, toes, and fingers frost-bitten. One man had one side of his nose bitten. LOUIS E. TRICE.

New Providence, Tenn., Feb. 11, 1884.

AN ESSAY ON BEES, BY A JUVENILE TEN YEARS OLD.

Bees are divided into swarms, or families. Every swarm must contain one queen, several thousand workers, and a few drones. The queen-bee is the mother of the family. She is longer than any of the other bees, but in other respects her size is between that of the drone and worker. In shape she resembles the worker more than the drone. She has a sting like the worker, but she uses it only to kill other queens. She has a very little hair about her head and trunk, which gives her a dark shiny appearance. Her wings are about the same length as the workers. She seldom leaves the hive without leading the swarm.

WORKERS.

All the labor for the family is done by the workers. They are provided with a sack in which to carry honey. On their legs are little baskets, in which they carry the pollen to their house. They are provided with a poisonous sting. They will not use it when not disturbed; but when you bother them they will be sure to make you feel the sting. They fly over fields to gather honey and pollen. They secrete wax, build combs, prepare food, take care of the young, bring water for the use of the family, and they seal up all the crevices about the hive, and they act as guards to keep away the robbers.

DRONES.

The number of drones in the swarm depends on the size of the family and the yield of honey, more than any thing else. Where there is a large family, and lots of honey, the drones are numerous; but as the honey gets scarce they are killed by workers. They have large clumsy bodies, covered with short hairs. When they fly, the buzz of the wings is louder and altogether different from that of other bees. Bees are very industrious. When there are flowers, and the weather is nice, they always do their part in gathering the honey. When they fill their hive, and we give them more room, they will fill it too. Rather than to be idle, they build combs outside of their hive. **Hinds Swiggett**, age 10.

Allerton, Ia., Feb. 12, 1884.

ESTHER'S APPREHENSIONS.

Pa has not gone into the bee business yet, but I wish he would. He gave me a bed of sage last season, and I think the proceeds will get me one stand of bees. They (that is, pa and ma) make light of my apiary. But we will see; time will tell. Suppose I can, with my apiary, get more honey than I can sell, I do not know what to do with it then, unless I could find some person who would purchase it at wholesale. **Esther A. Fredley.**

Silver City, Iowa, Feb., 1884.

Why, my little friend Esther, did you never hear about counting chickens before they were hatched? You have not only been counting yours, but you have been worrying about what to do with them, and yet you have not any chickens at all—or, rather, you have not any bees or honey. Our good old friend Abraham Lincoln used to say that he always made it a point never to cross a bridge until he came to it. If I am correct, one of the smallest troubles bee-keepers have is to know what to do with their honey after they get it.

LETTER FROM A LITTLE GERMAN FRIEND.

I feed the little birds still with crumbs; but if it is too cold and snowy to feed them, they come to the windows and say, "Why don't you give us our dinner?" but, of course, in their own language. If I were there I could talk with your Dutchman. I can read German, for my aunts taught me. I am reading the Bible through. I am in the second book of Moses. **Emma E. Miller**, age 8.

Lewisburg, Union County, Penn., Feb. 11, 1884.

Well, Emma, if you were to come here now, I suppose you would find a great many to talk to. We have now five all together, who could not talk English at all when they came here. Two little boys came last summer, and wanted work when our garden got to be pretty weedy. I set them at it, and they looked as glad as could be while they lifted their little German caps and thanked me. And then how they did go to work! When school commenced they worked for us only nights and mornings. But last week they were looking sad about something; and when asked, said their father could not send them to school any more, they were so poor, and he had no work. I told them to go right off to school, and tell their father to come down here; and I tell you, he does work, too, as only the German people know how to work. Yesterday our pastor was inquiring who the two little boys were who sat right before him, and were so attentive, and behaved so nicely. "Why," said I, "they are my little German boys, and they can hardly understand a word of English!" Now, children, although they could not understand, they were more attentive than most children who knew every word the minister spoke. I wonder if some of the good friends over in Germany could not teach us (Americans) some good lessons, if we were willing to receive them.

LEORA'S EXPERIENCE IN SCRAPING OFF THE SECTIONS.

I often clean the sections for papa. On page 100 you say the section is as clean as when it left the saw-table. If they are, the Medina bees are more cleanly than Suffield bees, for here they always have the sections waxed around the edge. A good many bottom-bars will sag, and they will be waxed to the center. Papa built a bee-house, made a door in back end, and two swing-doors to prop up on each side—one for the lower row of bees, and one for the upper row. **Leora Faylor**, age 10.

Suffield, Ohio, Feb. 14, 1884.

Thank you, my little friend. You have struck on a point of considerable moment just now. I know the bees will put propolis around the entrances of the sections, more or less, and I do not know how we can prevent them. It certainly makes the honey look nicer to have this scraped off; and I guess, since you mention it, that little girls are just the ones to do it. I know bees often get propolis away over on the outside when the bottom-bars sag, or when the sections do not fit nicely in the wide frames. There has been some talk about remedying this matter by bracing the bottom-bars, or by making them heavier. If made heavier it would take more room in the hive, and they would then be larger than the brood-frames. If the wide frames are made reversible, as has been lately talked about, that might possibly remedy the difficulty. Very likely some improvement can be made right here in order to keep the bees from gumming up the sections; and it is a fact, that, even after they are scraped, they do not look as nice as they did before any thing was put on them at all. I have thought of covering the sections with paper, and then peeling it off before it was given to the customer; but this would be expensive, and the bees would pick at the paper also, whenever they came near where they could get at it.

HARRY'S REPORT.

My papa had one swarm of bees, and he got four more swarms from it that year, but did not get any honey. The next summer, from the five swarms he got 31 swarms, and 500 lbs. of honey. Last spring he had 30 swarms, and he got 23 new ones and took 2200 lbs. of honey last summer. My papa raises small fruit.
HARRY F. GILMORE, age 8.
Georgetown, Wis., Feb. 20, 1884.

I had a swarm come out June 24, and they worked well for about two weeks, and then I noticed they were not working; and as they were in a box hive, I could not do any thing but watch. They filled the hive about half full, and then they seemed to just sit there and cover it. It stood there about two months in that condition, and in that time the bees were all, or nearly all, gone; then I opened the hive and found about 30 lbs. of as white honey as I ever saw. About two inches deep on every comb, the cells were filled about half full of some kind of light-brown sticky stuff. There were no queen-cells nor drone-cells nor worker-cells, nor any indication of there having been any brood raised at all. Can you answer my questions, and tell me what was the matter with my colony of bees?
Joliet, Ill., Jan. 30, 1884. CASSIE A. EIB.

Friend Cassie, your bees had lost their queen, was what made the trouble. The light-brown sticky stuff you mention was pollen, or bee-bread. It is used by the bees to feed their young; and as they had no brood, it accumulated in the hive. Probably the queen got killed when they were first hived, or very soon after.

BLASTED HOPES.

You can put me in Blasted Hopes this time, for I did not get any book when I wrote to you before. Well, I am in for one now, as I inclose a sketch of uncle's style of rustic hive, and he thinks his are the only ones of this kind in the world, so I am sending you at least something new in apiculture. You will notice that this rustic hive is made of six pieces — a bottom, four sides, and a top. The sides are held together by eight little pins passing through the ends of the cross-bars, to which the front and back are nailed. These cross-bars are two inches square; there are 4 two-inch auger-holes in each of the end-pieces, to receive the ends of the cross-bars. Two colonies can be packed in each rustic hive, and the advantage of making them this way is, that they can be taken apart when spring comes, and piled up in a stable, or any other building, thus getting rid of the unsightly structures that we sometimes see about our apiaries.
W. J. MILLER.
Horning's Mills, Ont., Can., Nov. 27, 1883.

A HEAVY HIVE.

My grandpa has 7 swarms of bees. They have wintered very well so far. We were looking at the bees the other day, and we saw a comb that the bees had worked out. The hive was so heavy that grandpa could hardly lift it. He said he was going to transfer them in the spring into the Simplicity hive; and if they did well, he would give me one. We take GLEANINGS, and grandpa got your A B C book.
Homeworth, O., Feb. 21, 1884. HARRY R. LEE.

Friend Harry, very likely the bees that filled that hive and made it so heavy could have filled it three or four times, if the honey had been taken out with an extractor, or if room had been given tham in sections. The great secret of modern bee culture is, that it always permits all the bees to work, while with the old plan they crowd their hives with honey until there is no room to raise more young bees, and then they stop work right in the very most valuable part of the season, oftentimes.

ABOUT CUTTING A BEE-TREE, AND SOME OTHER THINGS.

My father has four hives of bees, and one swarm in the woods. He was trying to cut the tree down, but it split in two. He got a little honey, but he had to strain it before it was good to eat. He left them there, and a tribe of boys came and fired bullets into the swarm. Before winter came they had quite a lot of honey. They have lived comfortably. My father makes his own hives, frames, honey-boxes, and smoker. He has four Italian queens. He bought them before winter set in. This winter he found out that the old bees came out and died. They hatch the young ones before they come out. My father fed the young swarm sugar this winter. He packs the hives with chaff. The bees in the summer get so hot they come out and alight on the front of the hive.

When they swarm they all fly in flocks till they reach a branch of a tree, then they stay awhile. Sometimes they go off before anybody sees them. My father sets me to watch when he thinks they are going to swarm, then I run to the shop and tell him. Then he comes home and takes a veil and smoker, then goes and smokes them, then cuts the branch, and restores them to a new hive.
Cambridge, N. Y. FRANK B. STARR, age 10.

Well, that is a pretty good letter, Frank. The bees fly in "flocks" when they swarm, do they?

A COUPLE OF LETTERS FROM OREGON.

Our bees are out to-day, carrying in pollen, as in mid-summer. We have tapped several maple-trees, and have got a good quantity of sap from them. Papa takes GLEANINGS, and I like to read it. He has a good many stands of bees, and a good many cattle; he has one sick cow, and has to doctor it.
EDWARD PALLIES, age 12.
Mehama, Oregon, Feb. 1, 1884.

We are having fine weather—the finest winter we have had since we came to the Cascades. It was so hot to-day that the bees were flying everywhere. They were packing in pollen, and visited the maple-trees we had tapped. Father has 25 stands of bees. He just got a lot of things this winter from you.

VINE-MAPLES, AGAIN.

The woods are full of vine-maples around our place. Every time we cut one the sap runs out like water. Have you ever tried boiling it down? We are going to try it. Father has 500 acres of land for his bees to roam over. He had about 3 acres of big alders cut down before he began to keep bees. The honey-dew was very thick on the leaves this summer; and where a leaf curled up there would be a teaspoonful. I see all young writers tell how much stock they have, so will I. We have 22 head of cattle, 3 horses, 125 goats, 150 sheep, some pigs, etc. There are a good many deer around our place. Sometimes one comes and lies down on the hill and "picks his teeth." But you are not allowed to kill them.
JOSEPH PALLIES, age 16.
Mehama, Oregon, Feb. 2, 1884.

Our Homes.

By this shall all men know that ye are my disciples, if ye have love one to another.—JOHN 13:35.

THE matter before us to-day, dear friends, was suggested by three little words in our "Kind Words" column of a month ago. The three little words were, "We be brethren." Many times since reading them in that letter, have they come to mind, and always with a pleasant feeling. Sometimes in shaking hands with a Christian brother I have repeated them, "We be brethren," and every time I have repeated them they seemed to have a new power and a new significance. The three little words seem to give me a lift upward, as it were, and a sort of nearness to my fellow-men, and, at the same time, a nearness to God. Is it not a fact, friends, that when we get near to each other we get nearer to God? The little words, "We be brethren," indicate Christian fellowship; and what a grand thing is that Christian fellowship!

Yesterday the superintendent of our Sunday-school informed us that our subscription that day was between seven and eight dollars, the greater part of which goes to the building of the Morning Star steamship. I presume many of our readers know that the Sunday-schools of the United States are contributing, with the end in view of building this steamship. When I first came into our Sunday-school, I heard talk among the people about the Morning Star; and on inquiry I learned that the Sunday-schools of this country had built a sailing vessel for the exclusive use of the missionaries who are constantly going to and from the mission fields among the remote islands of the sea. Somebody showed me little printed papers, which were the certificates of stock. These certificates of stock were only ten cents each; but then there were Sunday-school children enough to build a great vessel capable of navigating the waters of the entire globe, and the dimes saved up by the children did it all. The mission work has now, however, assumed such proportions that a sailing vessel is inadequate to the work. Oftentimes the missionaries are kept away from their fields of labor by inconvenient calms in those tropical seas. A larger ship is needed, and one that goes along by steam. Why should not the work of reclaiming savages go by steam as well as all other great enterprises?

A year ago or more the matter was talked over, and some apprehension was felt that the Sunday-schools of the world were hardly equal to the task of such a great enterprise. I said at once I *knew* we could do it; and the news came yesterday that the sum of $25,000 was already paid over toward the $45,000 that was wanted altogether. The contract for building her has been let, and it is to be ready to start out upon the broad ocean by the first of next September. Certificates of stock are to be issued and sent around to the Sunday-schools, of 25 cents each.

At the close of our Sunday-school, one of our prominent business men arose and asked if these certificates of stock were liable to assessment. The reply came quickly, "Yes, sir; ten cents a year, to cover running expenses." Somebody else got up and replied, "Yes, sir; mission work is going to last as long as the world lasts, and we expect to be assessed, and thank God for the opportunity and ability to help in this work, so long as we live."

Other remarks followed, and the impression left, as the matter was dropped, was a most grand and glorious one. We, the Sabbath-schools of the world, infantile, juvenile, boys and girls, men and women, including the old and gray-headed, were all working, rejoicing with the love of Christ as the central and impelling thought of Christianizing and civilizing the world. United as one family we have, during the past few months, simply by each and every one bringing in his pennies, already raised $25,000, and who has felt it? The secret of it is, that we have pulled all together; the thought that has been with us and through us, and all along the line, is the same thought I expressed a little time ago—"We be brethren." The world will look at that grand steamship as she moves among the fleets of the world, and ask what it is for, and how it came; and the answer, in whatever shape it comes, will be to the effect, "By this shall all men know that ye are my disciples, if ye have love one to another." You see, this ship indicates, dear friends, not only that we have love to our near neighbors, but that we have love to the savage and pagan tribes away off in the remote corners of the earth, and that our love to them assumes a type not unlike, although it may be a faint semblance only, of that love which prompted the Father to send to earth his only begotten Son. "For God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life."

Many a Christian parent has indeed already sent sons and daughters to these savage tribes; and when they have gone, it seems to me a great joy, even though mingled with pain, has come into their hearts that they have been able to make even such a sacrifice for the Master's sake. They do not go now as they did a few years ago, with such great probabilities that they will never return, because, thanks to the Morning Star and other vessels, they have now opportunities for making visits home again in a few years, or of returning to recruit, after the trials and hardships of a new climate and a new world, as it were. In this very number our friend Bess has given a vivid idea of the need of mission work away off in Alaska.

Now, friends, we are not going to let things suffer here at home because of these enterprises, and we are not going to lose by any means in thus scattering our money, and sending our bread away off on the wide waters. Our pastor told us yesterday that the Sandwich Islands had contributed toward this steamship the sum of $1500 of the $25,000 already raised. A few years ago I told you something about the Sandwich Islands. Is it indeed so, that they are able and willing, in these few short years, to do so much toward fulfilling the commandment of the Master, "Go ye out into all the world, and preach the gospel to every creature"?

I have been astonished to note how greedily the children drink in every word in regard to the story of the Morning Star, and her mission through the seas. The boys of my class, although not ordinarily interested in any thing in regard to missions, listened with breathless silence to my account of this work; and at its close declared with almost one voice, "Mr. Root, we can do it, we know we can do it; just give us a chance, and let us try; and when we have got the ship built and paid for, it shall be *our* steamship." They are right, friends. It will be ours, because it belongs to the Sunday-school. Now, all this is done, and much more can be done, simply by heeding the voice of the Master, and showing to all men that we have love to another, that "we be brethren;" that we do not stop to inquire what church it is, what denomination, what minor differences of opinion, but that, with light hearts and happy faces, we go down into our pockets, and say, "Here is the twenty-five cents. Go on, and build the steamship." Now, friends, you see what we can do unitedly. Suppose every man worship God "on his own hook," to use a common expression, how much would it amount to? How many steamships would the same number of people build, if they held aloof from each other, without meeting every Sabbath to compare notes, talk over experiences, and profit by mutual sympathy and encouragement? What can one man do all alone by himself, any way? And yet I meet hundreds of Christian people who say that they love God and love the Bible, and yet they belong to no church, attend no Sunday-school, and, please do not think me uncharitable or harsh, if I say grope in darkness, and go through the world grumbling and finding fault with things and people about whom they know comparatively little.

I have often thought humanity was much like the bees in a hive; united, and standing side by side, they are a power, and can defy almost any evil; but a single bee, off in the fields alone, is almost as helpless as any other insect. When I used to raise queens in small nuclei, say with two frames two or three inches square, I found I could handle these little miniature colonies almost as I would handle flies. You see, there were not enough of them to show fight. Let them get to building up, however, until they filled two stories of a full-sized hive, and then we would find it was quite a different matter, although in both cases it was precisely the same worker-bees, and the progeny of the same queen. Now, friends, it is the same with humanity in almost any undertaking. We can not hold aloof from each other, and distrust each other, without suffering. "We be brethren;" and woe betide us when we forget it.

A few years ago an elderly gentleman called on us to see about having some bee-hives made. He had a new system of bee culture, and a patent hive, all his own. Although quite intelligent on matters in general, and well along in years, I was astonished to find him almost entirely unacquainted with modern bee culture; and still worse, he was so set in his own way that he declared that, with his system and common bees, he could get more honey than any bee-man of the present day. He also declared that he could remove this immense crop of honey from the bees without getting a single sting the whole season through, which none of us could do. I attempted to explain to him his mistake, but he would not listen. I asked him if he had made any such great yield as he told us about. He admitted that he had not, but said he had not had proper opportunities. I urged him to test his theory with a few hives, but he insisted on demonstrating to the world his superior way, by building two pretty good-sized house apiaries. The outsides were painted with all the colors of the rainbow, to guide the bees to their respective domiciles. If I am correct, he did not even use movable combs in his improved system. He held aloof from bee-men, and would not even read the journals, or attend conventions. And, by the way, friends, I want to say here in a sort of parenthesis, that I do most warmly indorse and recommend conventions, even small neighborhood conventions, especially where the spirit of them is in the line of which we have been talking—"we be brethren." Well, this friend of whom I have been speaking, told all around what he was going to do; made everybody stare and look at his peculiar structures; paid us quite a sum of money for the hives and fixtures, and yet failed in all, if I am correctly informed, without ever getting any honey to mention. In fact, I am not sure that he got a single pound. I protested when he gave us his orders, and told him his project could not help being a failure. I reminded him that we had seasons every now and then that gave almost *no* profit; but he stubbornly declared that bees always made honey when managed on his plan.

This is a sad story, friends, but it all came about because he would not be one among the bee-keeping brethren. He would not profit by the experience or advice of others, but held himself aloof, and in a lofty way, as it seemed to me, declared his knowledge and judgment superior to them all. Now, when we profess to love God, to love justice and truth, and yet stand aloof from the great bodies of our fellow-men who are working unitedly, are we not much in the attitude of our poor mistaken friend?

It has seemed to me of late as though one could not know God, could not feel after him and find him, unless he was in close communion with his brother-men. Still further, I have thought that one of Satan's most ingenious wiles was in the line of persuading us that all mankind is corrupt and dishonest, and that we alone are pure in heart. When Satan can get us into the attitude of looking at neighbors in a jeering sort of way, and saying, as we witness their failures or weaknesses, "There goes your pretty Christian," he has got us pretty well under his thumb. How much better is the attitude when we feel like extending a brotherly hand to one who is going astray; and while we do so, feel in our hearts, "We be brethren." I know I am at fault, dear friends; I know that I have been wrong in this matter of conventions, right in this line.

Our good friend Professor Cook has taught me some lessons here, and I pray that God may help me to have more of the spirit that he carries with him wherever he meets throngs of people; that spirit that seems to speak to all men these little words I have repeated so many times to you in my talk to-day, "We be brethren."

Just now there is considerable talk about the adulteration of honey. The world accuses bee-men of putting glucose in their honey, or of feeding it to their bees; and we feel sad as we see how deeply rooted is the prejudice. I have sometimes remonstrated with those who made unkind remarks, in this line: "Why, my friend, he is your neighbor. Do you not know him well enough to *know* that he wouldn't sell you sugar syrup, and call it honey?"

The reply has often been, "Why, to tell the truth it did not seem as though he would do so; but then, men will do almost any thing for money nowadays."

You see, even this last clause, friends, indicates still that want of charity. Is it true, that men will do almost any thing for money? Will *you* do any thing for money yourselves? If not, why do you speak of others in that way, O ye of little faith in your fellow-men? Why not accept the great truth so plainly apparent, that the world averages about as well as you and I average, and that it is not very likely the world at large would be guilty of many things that you and I would be ashamed to do. In our haste we often accuse our grocer, or our dry-goods merchant, or butcher; yes, and even our doctors and perhaps ministers, of selfish motives, when we would blush at the thought that we ourselves could be guilty of any similar thing. How often does the Bible enjoin more love and more charity; more forbearance, and to this end a better acquaintance with each other! When you hear somebody speak ill of another, just try asking him the question, "My friend, have you been to this brother and stated the matter to him as you state it to me?"

"Why, no; I have not, for it would not be a bit of use."

"Well, my friend, suppose you *try* going to him and stating the case in a neighborly way."

I am sorry to say, that people are generally so averse to doing this that they can seldom be induced to do it. I confess it is very hard for me to go thus to a person when he has tried and vexed me, and tell him frankly all about it. But of late I have been forcing myself to do just this. *Forcing* is the word, for it is so against 'the grain, as the expression goes, that I can not well do it without forcing myself; but when I have done it, a blessing has invariably followed. I have always been surprised, *every time*, to find that the case was not nearly so bad as I had got it into my head it was, and that there was very much more good in that individual than I had formerly supposed. The work in our jails is characteristic of this. Four men are now in our jail for attempting to rob a safe. I understand they were armed to the teeth, and ready to commit murder, if necessary, while doing their work; but they were induced to give themselves up, simply by the force of numbers. So many people were gathered to the spot, and had surrounded them, that they saw resistance was useless.

Now, although my soul recoils at such an act, and although it was a hard task for me to think of going there and talking with these men, yet when I became well acquainted with them my feelings of indignation were turned a great deal to pity and sorrow. It is the old story, and whisky was the cause of it all, indirectly if not directly; and while we decide that the good of the community demands that these men should serve out their time in the penitentiary, the thought comes home to me, that you and I, and all of us, are to blame, at least somewhat, for permitting whisky to be sold at an open bar in this land of ours. It is an easy thing to have love one to another, friends, or love to our neighbors, if you choose, where these neighbors are trying to do right. But suppose they are *not* trying to do right, what then? Suppose you have a neighbor who lies and steals, and is robbing you at every opportunity, then what? Human nature says, "Get away from him, and let him alone." But Jesus says, "Love ye your enemies." And again, "Do good to those who hate you, and pray for those who despitefully use you."

Perhaps you think I do not know how hard it is to do this. I have preached it and talked it for these seven or eight years; and yet when I think of it, when it comes right up before me, when I feel myself called upon to do good to those who are deliberately trying to wrong me, I sometimes feel as if about all my poor weak human nature was capable of was to breathe that old silent prayer, "Lord, help!" I love those words. I love to feel them welling up involuntarily when the still small voice sounds out that quiet warning, "Look out, my child; danger is near." Oh how many times have I stood still and breathed that little prayer, "Lord, help"! and how many times, too, dear friends, has the help come speedily! Peace and quietness at once begin to come into my heart, and very soon afterward, feelings that are wrong are driven out, and kindness and love have taken their place. Yes, even love for those who hate me; love for the sinner, even though I feel disgust at the sins. It is in this line that the Bible has been so precious to me. It is in this line that I have been lifted over trials and troubles, and have been enabled to feel hopeful, even during my most vexing cares. Where else in this world shall we find such counsel, and where else shall we find such strength and help as in the Bible, and in studying the word of our Lord and Master?

A few days ago I got to thinking it over, and the thought welled up within me, that the proofs of the divinity of this Bible and the Christian religion had been so great in these seven or eight years past that I felt surer of it than of any thing else earthly. I do *not* know, dear friends, that the sun will rise to-morrow; but I do know that the pathway I have been toiling in since I accepted Christ as my leader, is the right one. The evidences lie strewn all along through this changed life, so thick and plain that I should be *insane* to think of deserting it for the old life. I can not explain in words how these evidences have come, or why I can say, with such perfect assurance, "I *know* that my Redeemer liveth." It is not only that it has been proved and tried every day of this new life, but there has been a progression and a stepping upward week after week and month after month, until it seems as if I could look back along that pathway and see the starting-point down those many steps, *away* down, to a point where I shudder and tremble to even cast a look back at. There is a little verse which I want to quote you in conclusion, that seems to sum it all up. But before I quote it I want to ask you to please remember that I am human. Do not take me for a standard, dear friends; do not judge of Jesus by the poor way in which I have succeeded in following him. If you knew where I was once, and how I have been helped by the grace of God, up and away from that place, my life might show differently to you, and perhaps you would make allowances for some of the old evil that hangs around, and is lurking there still. Now, the beautiful text that I have in mind, and that I want to give you as a bright beacon-light to your pathway is this:

> The path of the just is as the shining light, that shineth more and more unto the perfect day.—PROV. 4:18.

Tobacco Column.

HOW FIVE BROTHERS WERE INDUCED TO GIVE UP TOBACCO THROUGH READING GLEANINGS.

My brotheer Jeff takes GLEANINGS, and keeps bees. He has 11 hives. They all wintered well, only one hive died. He feeds them on corn-cobs, with sugar. I like to read GLEANINGS, and the letters in it. I want you to put this letter in the Tobacco Column, as I have been using tobacco for 12 years, both chewing and smoking, up to last May, when I quit chewing and commenced smoking excessively until I saw so much about it in GLEANINGS, when I concluded to try to see if I could not quit the use of the weed altogether. I have not used it in any form since last December. I had four brothers who used it, but after I stopped, they have followed my example, and none of us use the weed now. You are the one who caused us all to stop using tobacco, and I don't want the smoker, but would rather give you one. I may write to you again some time. Kiss little Peter for me.

FRANK S. WERNER.

Riverside, Texas, Feb. 18, 1884.

May God bless you, boys, for your efforts in the right way. You can not imagine how much good it does Uncle Amos to hear of your determinations for the right. And, Frank, I want to thank you especially for your concluding words, and for saying that it is not because you want a smoker, but because you thought it was right to give up a bad habit. Thanks, also, for remembering little Huber, for that is what we call him now, instead of Peter.

ANOTHER STORY OF DELIVERANCE FROM TOBACCO.

Now about smoking. Don't be afraid. I am not going to apply for a smoker. After 35 years of heavy seasoning with tobacco smoke, I quit using it, now close on to 7 years ago; but I trust from much higher and nobler motive than being *paid* for doing right, by one of my fellow-men, however good and kind his intentions. Your endeavor, dear brother, to assist any poor *slave* to break his chains, and rise to the position of a *man*, is a good and noble one; but I could not receive pay from you or any one else for your trying to do me good. Am I wrong? During my 35 years' experience as a smoker (I never *chewed* tobacco), you may be sure I often heard and read and argued on the tobacco question, but never succeeded in convincing myself that it was either good, useful, or cleanly, although completely enslaved by it, yet thinking all the time I could give it up, if I wanted to. After a while I did want to, and tried, and learned my weakness. I tried tapering off, so as to weaken the craving by degrees; *failure.* It must be all, or nothing. Often did I resolve that, when I had used up what I had on hand, I would buy no more; failure again. By the time my supply was exhausted, my good resolutions had vanished, and I was still a confirmed smoker. But, how did you give it up? I will tell you. A great many years ago I realized the claims of the Lord Jesus on me, and gave my heart up to him, to be guided and molded according to his will. During a pretty long life (now close on to 63 years) he has led me on through sunshine and storm, joys and sorrows; many times he has had to use the rod of discipline to bring his wayward child back to the path; he has taught me the depth of the meaning of the loss of the firstborn, that I might understand a little of *God's* love in giving his only begotten. To-night I can say *Ebenezer.* About eight years ago I was much exercised in my mind about my coldness of heart, and an intense longing came over me for a higher walk and closer communion, and for days the burden of my prayer was, "Dear Lord, make me more like thyself; bring me closer, closer, that I may truly know what it is to walk with God." One day as I was praying, the Holy Spirit (for I can attribute it to nothing else) flashed into my mind the thought, "What inconsistency! professing to follow Jesus, praying to be like *him!*" Could I for one moment bring *him* before my mind's eye, going about on his errands of mercy with a pipe or cigar in *his* mouth? That, sir, settled the tobacco question for me, and my cry was, "Blessed Jesus, thou wast *pure* while here on earth; thou *art* pure; oh make *me* pure! strengthen me with thy strength for the combat, for thus only can I conquer this habit," and I now record his faithfulness. He heard and answered, and I have learned this lesson: That I for one can not be a consistent follower of Christ, and continue to be a smoker. Some say the battle is easy. I found it quite the reverse. I had been accustomed to smoke, the first thing after meals, 2 or 3 times between meals, and the last thing before going to bed. I did not throw away pipe and tobacco in disgust, but cried mightily for deliverance from the appetite for it. For three days I was so restless I hardly knew what I was doing; then the reaction set in, and for three days and nights I neither ate, drank, nor slept. Thanks be to the Lord, he sustained me through it all. Not unto me, O Lord, not unto me, but unto thy great name be all the praise. Let me not stand in my own strength, for I still love the smell of a fragrant cigar.

Forgive me, if I have wearied you with my tedious scrawl. I have not written this for publication (as I have no desire to see my name in print), but partly because one loves to tell a fellow-traveler what befalls us by the way, and partly to suggest the thought suggested to my own mind, that the love of Christ introduced into the heart of a man is the surest ground to work upon for a thorough reform. It is not probable that we shall ever meet on earth; but if, in the overruling of Providence, you should ever visit this part of the world, we should be most happy to give you a hearty welcome. F. CLARE.

L'Orignal, Ont., Can., Feb. 1, 1884.

Friend C., I do not know but I have taken a little liberty in disobeying your orders; but letters like yours have so many times proved helpful to other struggling brothers, I could not but feel that you would be willing to give it, if it would help any poor soul. Therefore I have asked you to give in your testimony for Christ's sake, and for others' sakes. May God be praised for the victory you have won. Thank you, too, for your very, very kind words, my brother.

About three years ago a copy of a certain bee-publication came into my hands. I was interested very much in certain articles contained therein, and one was in regard to the use of tobacco; another was the Merrybanks story, and I induced a friend to subscribe, and afterward I also became a subscriber. I still was interested in these articles about tobacco; the more so, as I was myself a slave to the filthy habit (why not call things by their right names? *it is a vice*), and had been so for perhaps fifteen years. Well, after a while (perhaps before this too) the editor, A. (No.) I. Root, offered to give to any one who would quit, a brand-new bellows smoker; and about one year ago I thought I would try to quit. How well I succeeded you can judge when I say that I have not made use of a penny's worth since, and I thank my God, whom I endeavor to serve and obey, who will aid all who come to him aright, that I am a free man, so far as this vice is concerned. Did I have a struggle to obtain this mastery? Sometimes it seemed I just could *not* stand out any longer. I was nearly down with nervous prostration; some of my friends almost advised me to commence again. To some I said, "I will die first." I was a great deal in the company of those who did use it, and some would say, "Here, take a chew; I know you want it." At other times some friend I would meet in town would say, "Here, have a smoke." To all, I said "No," and *meant* it too.

Little boys, never let this habit get such a firm hold upon you; but rather in its stead, get the love of God in your heart, and there is not much danger then.

Did any of you ever know of a Christian *learning* to use tobacco? I did not. Last Sunday at our Sabbath-school a class of rather small boys (part of them) so lost sight of all propriety as to chew tobacco in the house of God, and spit upon the floor to such an extent that it ran quite a way upon the floor, and their teacher, a young lady of refinement, had to move away from in front of them. Some, perhaps, will say that a great many families get their living by raising it; and if all would quit its use, that an important branch of agriculture would go down. The ground that will raise tobacco will also raise corn; and by the looks of the empty corncribs through this part of Ohio, it would certainly be best after all.

Well, boys and girls, do you think friend Root sent me a smoker? Yes, *half a dozen of them*, but—I paid him for *every one*. After all it was not the inducement held out, of a fifty-cent smoker, that caused me to quit, or that enabled me to hold out afterward; nor do I want one now; but if he thinks there is one due some of you, tell him of some poor old father or mother who has bees, and tell him to send it to such as a surprise. JACOB GUISINGER.

Stanley, Ohio.

That is a good talk, friend G. Now, then, who will tell us of some poor old father or mother, as you state, to whom I shall send a smoker, instead of sending it to you? That will be in the line of Christ's work exactly. Just here I want to emphasize a thought presented by the brother who wrote the letter before yours. How would Jesus have looked while on earth, using tobacco? And is it not true, dear friends, that the attitude a young man assumes when he commences to smoke, indicates clearly that the state of his heart is one away from Jesus?

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, MAR. 15, 1884.

My help cometh from the Lord, which made heaven and earth.—PSALM 121:2.

WE will pay 10 cents apiece for the July No., 1883.

UNTIL further notice we will furnish a good quality of beeswax for 38 cents. It will be shipped from St. Louis.

OLD BEE-BOOKS.

GEO. NEIGHBOUR & SONS send us a list of toward 100 old bee-books which they offer for sale. Among them we find Huber, translated in 1806, 1808, and 1821. Any one may get the list by writing to George Neighbour & Sons, 149 Regent St., London, England.

IF any of the friends in the South have any dollar queens to spare, we will pay $1.25 each for one or two as a sample, if you can get them here alive. We will get them out of the mails, and into a warm place just the minute they arrive. This offer holds good only till our next issue, and I wouldn't try more than one at a time for the present. Our bees are all alive yet; but the tug of war comes this month and the next.

REVERSIBLE FRAMES.

A GREAT number of communications have been received on this subject, and quite a number of models. Many of them are frames at fixed distances, which I told you was about out of the question, and others are old devices, some of them having been illustrated in GLEANINGS. I do not believe it worth while to spend very much time on this matter just yet, friends. Mr. Heddon has an article for our next issue that covers the ground pretty thoroughly.

Chas. Kingsley, of Benton, Bossier Parish, La., Guyton Bros , Waco, McLennan Co., Texas, and D. McKenzie, Carrollton Station, New Orleans, La., are now ready to ship untested queens.

GLEANINGS TYPE FOR SALE.

We offer for sale the type Gleanings is now printed on. We have about 200 lbs. of the nonpareil, or small size, and 150 lbs. of brevier, or large size. For the whole lot we would take 20 cts. per lb. The small type is, of course, worth more than the large, but it has been worn more, so we make the above offer of the lot right through, and we should consider it a bargain. You can tell how good it is by looking over our pages.

NO. 36 TINNED WIRE.

You will see that a mistake has been made in quotations on this size of wire, and the price hereafter will be as follows: On spools containing about ¾ oz., 5 cts. each; 45 cts. for 10, or $4.00 per 100. Price of the wire in coils, 5 cts. per oz.; 35 cts. per lb.; or in coils of from 5 to 10 lbs., as it comes from the factory, 28 cts. per lb. As it is extremely difficult stuff to handle, we have to have a higher price by the ounce or single pound.

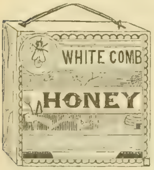
DECLINE IN THE PRICE OF WIRE CLOTH FOR QUEEN-CAGES.

By purchasing in very large quantities, we have been enabled to reduce the price to 3 cts. per sq. ft., or rolls containing exactly 100 sq. ft., $2.75. If wanted by mail, 3 cts. additional per sq. ft. This wire cloth is made dark blue, with 12 meshes to the inch, and is the best thing for queen-cages, or for hiving bees for shipment, putting up nuclei, etc. It is made in three different widths — 24, 30, and 36 inches. But at the prices we have given per 100 feet, each roll will be all of one width.

SENDING BEES AND QUEENS LONG DISTANCES.

Letters are coming again this spring from Australia, New Zealand, and the Sandwich Islands, to say nothing of California, Oregon, and other remote points in our own country, for queens and bees. Now, dear friends, we *could* probably prepare them to go these long distances, and get there alive; but I do not believe it will pay either you or us to undertake it. The queens and bees in our apiary are probably not one whit better than those you can obtain probably not very far from your vicinity. I say this with the understanding that there are good Italian bees in all these points; in fact, articles from all these places indicate as much.

PASTEBOARD BOXES FOR 1-LB. SECTIONS OF COMB HONEY.



This box has a bit of "red tape" attached to it to carry it by. It makes a safe package for a single section of honey for the consumer to carry, or it can be packed in a trunk, if he wants. It can be opened in an instant. The price of the box is 2 cts. each, set up; in the flat, 15 cts. for 10; $1.25 per 100; or $12.00 per 1000. Colored lithograph labels for putting on the sides, two kinds, one for each side, $3.50 per 1000. They can be sold, labeled on one side or both sides, of course. We have only one size in stock, for Simplicity sections. Sample by mail, with a label on each side, 5 cts. If you want them shipped in the flat, labels already pasted on, the price will be one cent each additional, for labels.

EXTRACTED HONEY.

Our friends will notice by the market reports, that only 7 and 8 cents is now offered for extracted honey. Now, while we are not prepared to buy honey in large quantities, I will say this: Until further notice I will pay 8 cts. per lb. in trade for a nice article of either basswood or white-clover honey, delivered here. This is a small price, I know; and if you can do better, I shall be very glad to have you do so. The offer is made mainly for those who want supplies, and have not money on hand, but who have honey. Before you ship, send me a small sample by mail. I will furnish you a block to put it in, on application. I will also furnish you iron-jacket cans to ship it, where it is not in barrels or suitable packages.

CONVENTION NOTICES.

The Bee-Keepers' Association of Central Illinois will hold its next annual meeting in the office of the County Surveyor, in the Court-House in Bloomington, on the second Wednesday of April.

W. B. Lawrence, Sec.

The Mahoning-Valley bee-keepers will hold their next meeting in the town hall at Newton Falls, O., Thursday, April 10, 1884, at 10 o'clock A. M. A cordial invitation is extended to all.

L. Carson, President.
E. W. Turner, Secretary.

The Central Michigan Bee-Keepers' Association will hold its semi-annual meeting at Lansing, in the Pioneers' Rooms, in the State Capitol building, April 15, 1884, at 10 o'clock A. M. All are cordially invited to attend. Any one having any new apiarian implements, or any thing that will advance the interest of the association, is requested to bring it; and if not convenient to bring it, then send it to the secretary, and he will place it on exhibition.

Rev. J. Ashworth, Pres.
E. N. Wood, Secretary.

CIRCULARS RECEIVED.

H. H. Brown, Light Street, Pa., sends out a 20-page circular of bees, queens, extractors, etc.

Friend Muth sends out a single-leaf list of prices on extracted honey in barrels, kegs, and jars.

H. Alley sends a leaflet explaining his drone and queen trap; also giving notice of reduced prices.

W. T. Stewart, Eminence, Ky., sends us a one-page circular devoted to L. hives, bees, queens, etc.

Simon P. Roddy, Mechanicstown, Md., sends out a 2-page circular, devoted especially to queens and bees.

B. Davidson, Uxbridge, Ont., sends out a 4-page circular, devoted to hives, honey-extractors, fdn., etc.

Wm. Ballantine & Son, Sago, O , send out a circular devoted to bees, queens, hives, and apiarian supplies

Sheldon & King, Independence, Iowa, send out an 8-page circular, devoted principally to hives, fdn , and extractors.

W. B. Stone & Co., of North Lansing, Mich., send us an 8-page circular, devoted principally to hives, section boxes, and cases for the same.

H. F. Shadbolt, Winooski, Wis., sends us a very pretty 12-page price list, chiefly devoted to Simplicity hives, as we gather by looking at the pictures.

The Hiawatha Bee-hive works, Hiawatha, Kan., send us a neat-looking 4-page circular, devoted principally to Simplicity hives and appurtenances.

O. Clute, Iowa City, Ia., sends out a large 4-page circular in regard to bees, queens, nuclei, honey-extractors, etc.; also the terms on which instruction is given.

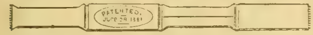
J. A. Osbun & Son, Spring Bluff Wis., send out a single-leaf circular, devoted especially to Simplicity hives, bees, and silverhull buckwheat. It is from our press.

Byron Walker & Co , Capac, Mich., send out a very instructive circular in regard to one-piece sections The remarks in regard to a combined rack and case are worthy of note.

S. Valentine & Son, Hagerstown, Md., send out a neat price list of 12 pages. Their specialty is albino bees. As they have quite a list of testimonials, we judge albinos seem to find considerable favor.

LADIES ! For *$2.50* you can use a *new* attachment that fits *any* machine; and it has turned out a bed-quilt in *less than ninety minutes.* *C. R. MITCHELL, Agent,*
6d *Box 102, Hawkinsville, Ga.*

"BOSS" ONE-PIECE
SECTIONS



We have again increased our capacity for making the "BOSS" ONE-PIECE SECTION, and are now ready to fill orders on short notice. We would advise our customers, and especially **Supply Dealers,** to

ORDER EARLY,

☞ *And not Wait until the Rush Comes.*

We will not manufacture Hives and Shipping Crates this season, as we have fixed over all our machinery for making the One-Piece Sections.

J. FORNCROOK & CO.

WATERTOWN, WIS., Dec. 1, 1883. 6-7d

Honey. ✱ Honey.

Great quantities of it, and great quantities of choicest fruit from new Cuthbert raspberry. I have really found a good thing at last. It is the largest and best red raspberry grown; so say those who have tested it, and so say I. Will stand heat or cold, wet or drouth. Have tested it now for two years, and am really surprised at the quantities of honey gathered from the blossoms; and that, too, when but little is gathered from any other source; bees continue to work on them four weeks.

I make more money from the crop of berries alone, than from any crop grown on the farm. A limited quantity of fine plants for sale; 1½ doz. for $1.00 by mail, or $3 50 per 100 by rail.

4-6d DR. B. F. KINNEY, Bloomsburg, Penn.

MISSING,

From Kenner, La., Fred S. Carrier, who was in the employ of E. T. Flanagan at that place, 16 miles from New Orleans. He left indications of mental derangement, and it is believed that he has either perished, or is wandering among strangers. He was one of Mr. Heddon's last year's students—a bright young man, of then sound mind; about 5 feet 8 inches in height, rather slender built, weight about 140, smooth face, nervous sanguine temperament, eyes bluish gray, hair dark brown. A little peculiarity in his walk was a hitch in the steps, as if there was a stiffness across the small of the back, though he was strong and well, with no such weakness. He was well versed, and very enthusiastic regarding bee-culture. Will any person who may think they have any clue to the whereabouts of the above-described person, please report the same to James Heddon, Dowagiac, Mich., or E. T. Flanagan, Kenner, La.!

POTATOES.—Ontario, St. Patrick, and Magnum Bonum; 1 lb., 20c.; 3 lbs., 50c.; by Ad. Ex.; by mail, 20c. a lb. extra.

6d C. WECKESSER, Marshallville, Wayne Co., O.

EARLY BEES!

BEES of all kinds at prices to suit purchasers, at all seasons of the year.

After July 1st, almost given away.

A. W. CHENEY,
5tfdb Kanawha Falls, W. Va.

Basswood Sprouts,

FROM 1 TO 3 FEET HIGH.

$1.50 per hundred; **$10.00** per thousand. All orders should be in before April 1st, 1884, to receive attention.

12½tfd HENRY WIRTH, BORODINO, N. Y.

BANNER NEW-YORK APIARY
FOR 1883.

6500 lbs. honey, and 66 colonies bees, full count, from 30 colonies, spring count.

☞ Circular of Italian queens, Dadant's foundation, and apiarian supplies, sent on application.

6-7-5d **E. F. SMITH, Smyrna, N. Y.**

FRUIT, SHADE, AND SILK!

RUSSIAN MULBERRY-TREES, about 18 in. high, sent postpaid for 15c. each, or $1 50 per dozen. Smaller size, 10c., or $1.00 per doz. *Order early.*

Address S. P. YODER,
6-7d E. Lewistown, Mahoning Co., Ohio.

CLARK'S COMBINATION CRATE

HONEY-BOARD and SECTION-RACK.

Practical, sectional, and reversible; neat, cheap, and adaptable to different sizes of hives and sections.

CLARK'S VISITOR SMOKER!

Latest out. Used by Bee-keepers where known, as hands are free to manipulate bees. Light, effective, and durable. Smoker, 20 cts., and C. C. Crate, 50 cts., postpaid. Circulars free.

J. W. CLARK,
6d Box 34, Moniteau, Moniteau Co., Mo.

500 L. COMBS FOR SALE.

6d S. A. SHUCK, Liverpool, Fulton Co., Ill.

I Will Mail You

MY 20-PAGE PRICE LIST OF

ITALIAN, CYPRIAN, & HOLY-LAND BEES, NUCLEI COLONIES,

Queens, and Apiarian Supplies, by sending me your address on a postal card.

6d H. H. BROWN, Light Street, Col. Co., Pa.

HOW TO START IN BEES

And make 'em pay. See OLIVER FOSTER'S circular on bees, queens, and fdn. molds.

5tfd b MT. VERNON, Linn Co., IOWA.

DON'T READ THIS!

My Alsike paid me a net profit of $60.00 per acre last year. Send for price list of seed.

Also Bees, Queens, and Drones; Fowls, Small Fruits, and Potatoes.

C. M. GOODSPEED, Thorn Hill, Onon. Co., N. Y.
6d

For Sale!

A COTTON, GRAIN, and STOCK FARM,

Situated on the Guadalupe River in DeWitt County, Texas, containing 1000 acres, 450 inclosed, and 200 in cultivation. An excellent location for a large apiary. Price $10,000. Correspondence solicited.

J. A. WIMBISH,
4tf-d-b **Cuero, DeWitt Co., Texas.**

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

PLYMOUTH-ROCK CHICKENS, EGGS IN SEASON BRONZE TURKEYS AND PEKIN DUCKS.

Birds all Farm-Bred, and have Unlimited Range.

C. L. DAVIDSON, - FLEMINGTON, W. VA.

HEDDON'S CIRCULAR

Can be had by sending your address to

JAMES HEDDON, Dowagiac, Mich.

☞State if you had his for 1883. 3t bfd

---

200 COLONIES OF ITALIAN BEES FOR SALE.

TRY OUR IMPROVED ITALIANS.

Send for Price List. Address

Dr. C. W. Young, or C. F. Lane,
12-1-3-4-5d **LEXINGTON, MO.**

WANTED!

Orders for Italian queens and comb foundation. Italian queens, untested, before June 1, $1.50; after June 1, $1.00. Italian queens, tested, before June 1, $2.50; after June 1, $2.00. 10% discount on orders of 5 or more to one address. Printed directions for introducing queens sent with each queen.

Comb fdn. made of pure beeswax, 1 lb. to 10, 60c. per lb.; 10 to 50, 55c.; 50 to 100, 53c. For thin fdn. for section boxes, add 5c. to above prices.

We guarantee safe arrival of queens by mail, and fdn. by express or freight, to all parts of U. S. or Canada. Cash must accompany all orders. Send money by P. O. order, registered letter, or draft. Address all orders to

KENNEDY & LEAHY,
4-12d b Box 11, HIGGINSVILLE, LAFAYETTE CO., MO.

1884. 1884.

ITALIAN QUEENS.

Untested Queens a Specialty!

We are on the market with a fine stock of bees in good condition. Will be ready to ship queens as usual, April 1. Send for our descriptive catalogue of bees, queens, and apiarian supplies.

T. S. HALL,
5tfd b **Kirby's Creek, Jackson Co., Ala.**

THE ALL-PURPOSE HIVE.

Arranged for continuous passage-ways, continuous combs, no honey-board, no bee-space, chaff and single-walled, no patent. Sample in flat. Given fdn., sections, etc. GEO. F. WILLIAMS,
2-3-4-5-6-7d New Philadelphia, Ohio.

BEES FOR SALE.

I have 30 or 40 hives of bees, mostly hybrids, which I would like to dispose of. They are in Simplicity hives. Any one wanting bees can address me.
H. M. CHAPMAN, Collamer, Cuyahoga Co., O.

ONE SIX-HORSE-POWER PORTABLE BOILER for sale cheap. Address
5d. R. ECKERMANN & WILL, Syracuse, N.Y.

COMB-FOUNDATION MACHINES FOR SALE!

Any size, $3.50; foundation from 45 to 50 cts., as to quality and quantity. JOHN FARIS,
6-8-10d Town House, Smyth Co., Va.

WANTED.—Italian or Hybrid bees in L. frames, in exchange for first-class double-barreled breach-loading shotgun, nearly new.
CHAS. F. RAYMOND,
6d 739 Republic St., Cleveland, O.

PLYMOUTH ROCKS. First-class stock. Eggs $1 50 per 13. Order early; couldn't supply the demand last season. Address S. P. YODER,
6-8-10d E. Lewistown, Mahoning Co., Ohio.

FOR SALE!

QUEENS, BEES, COLONIES, COMB FOUNDATION, BROOD AND WIDE FRAMES, SHIPPING-CRATES, HIVES, HONEY-EXTRACTORS, HONEY-KNIVES, BINGHAM SMOKERS, PRIZE HONEY-BOXES, AND EVERYTHING A LIVE BEE-KEEPER NEEDS.

☞Send us an order, and we will please you, we know. Price list sent on application.

F. A. SALISBURY & Co.,
GEDDES, ONONDAGA CO., N. Y.
2tfd-b

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Geo. W. House, Fayetteville, N. Y., Wm. Ballantine, Sago, Ohio., E. S. Armstrong, Jerseyville, Ill., H. Drum, Adelphi, O., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd. Hamilton, Hancock Co., Ill.

SEND

FOR OUR FINE DESCRIPTIVE PRICE LIST

—OF—

Chaff and Simplicity Bee-Hives

—AND—

Apiarian Supplies in General.

Good work, good material, low prices, and *satisfied customers*. Try us.

S. C. & J. P. WATTS,
4 b tf. d **Murray, Clearfield Co., Pa.**

HIVES. 1884. HIVES.

SEND for new price list of supplies for the apiary. Hives by the 100 in flat cheap, and best quality. Also rakes and cradles. White's pat. wire brace rake, best and most durable. Send for price by the dozen.

A. D. BENHAM,
4tfd-b OLIVET, : EATON CO., : MICH.

BEES FOR SALE!

A large lot of Black Bees for sale cheap, all in good condition. Address P. H. KING,
12½tfd-b Henderson, Henderson Co., Ky.

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Italian Queens $6 per Doz

Italian queens, raised from imported or pure American stock. Safe arrival warranted from June 15 to Oct. 15, for $1.00 each; at owner's risk, 75c each, or 7 for $5 00. With 25 days to fill orders, $6.00 per dozen the year round. All queens at owner's risk from Oct. 15 to June 15; $5.00 and over at my expense for registered letter or postoffice money order. Address DR. JOHN M. PRICE,
7-5d. Tampa, Hillsboro Co., Florida.

WAX-WORKS.

I will work wax into Dunham foundation during April and May, at 10c per lb. for heavy, and 13c per lb. for light fdn. Will make any size not larger than 11x19 inches. Send me your wax and insure satisfaction. Express to Fennville. C. W. KING,
Ganges, Allegan Co., Mich.

KALAMAZOO, MICH., June 19, 1883.

The fdn. looks well, and I see no reason why it will not work well. O. B. RANNEY.

YPSILANTI, MICH., June 21, 1883.

The fdn. is not only all in order, but is beautiful. The execution is perfectly done. DR. C. F. ASHLEY.

75 STANDS OF ITALIAN BEES FOR SALE.

Prices, $5.50 each, with 10 combs below and above; without upper story, $4.50. Frames 17¼x9⅛. Nice combs — little drone. Bees bred with care from importd and choice homebred queens. Reasons for selling, have other business. Must be sold by June 1, 1884. Safe arrival by express guaranteed.
C. KENDIG,
7-9d. Naperville, DuPage Co., Ill.

ITALIAN BEES!

Full colonies, with tested queen, $8.00; with imported queen, $13; hybrids, $6.00. Nuclei cheap; also bees by the pound. Untested Southern queens after May 5. Langstroth hives, crates, smokers, fuel, etc. E. A. GASTMAN, Decatur, Ill. 7d

Bees for Sale

In observing and plain hives. Address
C. H. LUTTGENS,
7. No. 210 Jacoby Street, Philadelphia, Pa.

1884. FOURTEENTH YEAR. 1884.

Queens ---Italians & Syrians.

Single tested queen, of either variety, - - $2.50
Single untested queen, " " - - - 1.25
For choice extra selected queen, 50 cents additional. After June 1st, tested queens, $2.00, and untested (laying queens) $1.00. Sent by mail, and safe arrival guaranteed. W. P. HENDERSON,
7-17d. Murfreesboro, Tennessee.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2,00 per year

Those whose names appear below agree to furnish Italian queens for $1,00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 7tf
*Paul L. Viallon, Bayou Goula, La. 7tfd
*S. F. Newman, Norwalk, Huron Co., O. 7tfd
*Wm. Ballantine, Sago, Musk. Co., O. 7tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 2tfd
*Jas. A. Nelson, L. box 83, Wyandott, Wy. Co., Kan. 6-5
*James P. Sterritt, Sheakleyville, Mercer Co., Pa. 10-3
*Thos. H. Price, New Providence, Mont. Co., Tenn. 5-15
*D. A. McCord, Oxford, Butler Co., Ohio. 5-15
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-
*S. G. Wood, Birmingham, Jeff. Co., Ala. 7tfd
T. H. Combs, Campbellsburg, Henry Co., Ky. 7
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*J. W. Keeran, 106 Washington St., Bloomington, McLean Co., Ill. 7-17
J. W. Newlove, Columbus, Franklin Co., O. 7
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 7tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
J. W. Newlove, Columbus, Franklin Co., O. 7

Black and Hybrid Queens For Sale.

I shall probably have about 40 black queens; will take 50c until May 1; after, your prices.
Arkadelphia, Ark., March 4, 1884. Z. A. CLARK.

ONE-PIECE SECTIONS $5 PER M.

LANGSTROTH, SIMPLICITY, AND CHAFF
HIVES, COMB FOUNDATION, SMOKERS,
AND A FULL LINE OF
APIARIAN SUPPLIES.

DERR & KREIDER, STERLING, WHITESIDE CO., ILL,

QUEEN-BEES.

Tested Italians, for sale now, $3.00; Dollar queens next month, $1.25. Imported mothers.
7-8d S. G. WOOD, BIRMINGHAM, ALA.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CINCINNATI.—*Honey* —There is no life in the market. Extracted honey sells in a regular way, and in its wonted channels, without any speculative feeling about it. It brings 7@10c on arrival. Comb honey sells slow at 15@16c for choice from store. *Beeswax* is in good demand, and brings 35c for choice yellow.

CHAS. F. MUTH,
S. E. Cor. Freeman and Central Avenues,
March 24, 1884. Cincinnati, O.

KANSAS CITY.—*Honey.*—The recent concession in prices has brought orders in quite freely, and stocks are much reduced. Choice white comb, 1 and 2 lb. sections, bring 16 to 17c; extracted in good demand at 8 to 10c.

JEROME TWICHELL.
Mar. 21, 1884. Honey Depot, 514 Walnut St., K. C.

ST. LOUIS.—*Honey.*—Our honey market continues very dull, with no prospect of improvement. Only a retail demand for comb honey at 14 to 16c per lb. for small packages in good order. Broken combs, 10c. White clover in good condition, worth 20c. Extracted very dull, and only small retail demand. Worth in barrels, 6 to 7c; in small cans, 9 to 10c, retail.

Beeswax.—Not much arriving. Yellow, 35 to 36½c.

W. T. ANDERSON & CO.,
March 22, 1884. 104 N. Third St., St. Louis, Mo.

MILWAUKEE.—*Honey.*—At this time the honey trade is dull, and sales light for choice white. 1-lb. sections, 15@16c; 2-lb. sections, 14@15c; 2-lb. sections, poor, 10@12½c; extracted, white, 9@10c; extracted, colored, 8@9c.

Beeswax.—Scarce, and wanted at 30@35c.

A. V. BISHOP.
Mar. 22, 1884. 81 & 83 Detroit St., Milwaukee, Wis.

CHICAGO.—*Honey.*—There is very little demand for extracted honey, and prices are easy at 7 to 9c. Comb honey will all be worked off, but the demand that does exist, asks for low figures. Prices range from 12 to 18c for white comb.

Beeswax, 30 to 35 c. R. A. BURNETT.
March 20, 1884. 161 South Water St., Chicago Ill.

CLEVELAND.—*Honey.*—There is no change in price of honey. We notice a little better movement of 1-lb. sections, while 2-lbs. are still slow. Best 1-lb. sells at 18c, 2 lbs , 16@17c. Second quality, 15@16. Extracted, no sale.—*Beeswax*—Scarce at 35c.

A. C. KENDEL,
Mar. 22, 1884. 115 Ontario St., Cleveland, O.

BOSTON.—*Honey.*—We have nothing new to note as regards the sale of honey. Prices are about the same, and we are trying to clean up our stock.

BLAKE & RIPLEY,
Mar. 22, 1884. 57 Chatham St., Boston, Mass.

DETROIT.—*Honey.*—The honey market is very dull at present, though there is a slight demand at 17@19c —*Beeswax*—Very scarce at 30@35c.

March 12, 1884. A. B. WEED, Detroit, Mich.

I have 2500 lbs. of white extracted honey, mostly clover, thick and nice, which I will sell, either in waxed barrels at 8 cts. per lb., or in new tin cans holding 40 lbs , for 10 cts. per lb., delivered on cars here. Small samples sent free. C. KENDIG.
Naperville, Dupage Co., Ill., Feb. 28, 1884.

FOR SALE.—About 1000 lbs. of honey, in two iron-bound and waxed barrels—one of clover, the other fall honey from mint. How near to 10 cents do I hear, on board of cars at Muscoda, Wis.?
Orion, Wis. F. L. SNYDER.

NOTES FROM THE BRIGHT-BAND APIARY.

FRIENDS:—The last time I appeared under the above head was more than a year ago, at which time, as some will remember, I laid much stress upon the superiority of my queens. Well, now for the result: Quite a number of queens were sold, and the next season (which was last summer) still a greater number were sold; in fact, I had orders for more than I could raise; consequently I have removed from my old place (Greenville, Tenn.), to this place, that I might raise earlier queens, and have facilities for raising a greater number of queens. I can now command 500 colonies in the queen business, if necessary. My intention is to produce queens not excelled by any. Price, untested, but laying, in April, $1.40 each; in May, $1.25 each; 90 cents each the rest of the summer. Tested queens, in May, $2.00; the rest of summer, $1.75. The above are from imported Italian queens; queens bred from Kingsley's improved bees, same price. Kingsley's improved bee is simply a cross between the Cyprian, Italian, and Holy-Land bees; and in reality they are ahead of any race, both for color and honey-gathering propensities. Sample live workers sent for 3c to pay postage.

All orders promptly attended to; safe arrival guaranteed; full directions sent with each queen.
Address CHAS. KINGSLEY,
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GEO. M. GRAY & CO.
HONEY LABELS
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First Class.
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Of all Kinds.
MEDINA,
MEDINA CO., OHIO.

Wanted, an Old Book!
Who can furnish me a copy of "Sears' Wonders of the World"? State price. W. P. ROOT, Medina, O.

ITALIAN QUEENS

Sent by return mail. My motto is, "A fair equivalent for every dollar received." Prices:

Untested queens from imported mother, April and May, $1.50; June and July, $1.25. April and May, per dozen, $15.00; June and July, per dozen, $12.00. I will send GLEANINGS one year, and a queen, for $2.00. Send money orders on Hillsboro.
7tfdb. H. A. GOODRICH, Massie, Hill Co., Texas.

Eggs for Hatching,

From first-class Brown Leghorns. Have bred them 10 years. Eggs from "Gem," whose sire and mates won first premium at the leading prize exhibitions in Massachusetts in 1883, $2.00 per dozen.

Also Chas. Downing, Crescent Seedling, and Sharpless strawberry-plants, 20 cents per doz., by mail.
7. W. C. JENNISON & CO., Natick, Mass.

ONE SIX-HORSE-POWER PORTABLE BOILER for sale cheap. Address
5d. R. ECKERMANN & WILL, Syracuse, N.Y.

1884. 6 Warranted Queens for $5.00. Write for circular. 1884.
7d. J. T. WILSON, - MORTONSVILLE, KY.

Dadant's Foundation Factory, *wholesale and retail.* See advertisement in another column.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.
F.A.Whiting

Vol. XII. **APRIL 1, 1884.** **No. 7.**

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

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NOTES FROM THE BANNER APIARY.

NO. 53.

SECTIONS, PROPOLIS, ETC.

FRIEND ROOT:—In my last article I said that, when next I wrote, I would review the articles on pages 226 and 285, Vol. X.; but as you have advanced nearly the same ideas in your reply to my last articles as you did upon pages 226 and 285, I do not think it necessary to go back and "rake up" those articles, so I will only reply to your remarks on page 188, current volume.

To the great mass of thinking, practical bee-keepers, I propound the question: Where do bees put propolis? Now just think a moment; for what purpose do they use it? Isn't it for the purpose of stopping cracks that they use it? Do they, as a rule, put it anywhere, except where two surfaces meet? Friend Root says that the outside of sections must be protected, otherwise they will be covered with propolis. I have just this moment left my writing, and examined about 500 brood-frames, some of which have been in use several years. Where they touched any thing, or where they were *very* rough, they were propolized; but where they were planed smooth, and touched nothing, there was not a particle of propolis. I also examined the inside of about 50 old hives. At the corners, or where a frame had swung against the side, was propolis; otherwise, not. If the bees of Medina put propolis upon plain, smooth surfaces, that are in contact with nothing, they behave differently from the bees of Rogersville. Now, if brood-frames and hives that have been in use for years are free from propolis, except where two surfaces meet, why should we expect the smooth surface of sections to become propolized at those places where they touch nothing, when they seldom remain in a hive more than a month? When sections are put into wide frames there is a crack all around each section; or, in other words, two surfaces meet all around both sides of each section, while in the Heddon case the top and bottom bars of the sections *touch nothing*, except at their ends; hence they remain entirely free from propolis, except at the ends. Upon this point I am not obliged to depend upon theory, for I *know*, from experience, that, except where they touch something, the sections remain entirely free from propolis. If sections could be aërially suspended, exactly bee-space from each other, they would remain entirely free from propolis.

Considerable has been said of late in favor of "continuous passage-ways" in the surplus department; but *I* should object to them. When placing one tier of sections upon another, bees would be crushed, while the top and bottom bars of the sections would be glued fast to the sections above and below them. If there is nothing between the sections and the brood-frames, the bees, by means of brace-combs, *not* propolis, will connect the top-bars of the frames with the bottom-bars of the sections; but the Heddon slat, or skeleton honey-board, most effectually prevents this. When the Heddon cases are tiered up, the sections in each case are exactly bee-space from those in the case above or in the one below, and there are no brace-combs built between the cases of sections, and no propolis placed upon the top and bottom bars, except at their ends.

I want no case with slats to support the sections. The bees will put propolis along the edges of the bottom-bars of the sections where they rest upon the slats. The width of the sections can not be varied, without taking out the slats and changing their widths and positions; and it would be difficult to remove the sections, while the slats might sag under the weight of the honey.

In regard to side storing versus top storing, it appears to me in about this light: If you squeeze an orange, the juice must go somewhere; and if you squeeze (contract) the brood-nest until the queen can keep it full of brood, the honey must be stored "somewhere" *outside* of the brood-nest; and if there is *no* space at the side, it is of necessity stored above; and by tiering up, there is no difficulty in giving all the room that is needed. But let us suppose, for the sake of argument, that a little more honey can be obtained by the side-storing method, would it not be more profitable, and *very* much more pleasant, to put a few more bees in the apiary, and then adopt the simple top-storing, tiering-up plan, which comes the nearest to running itself of any system with which I am acquainted?

W. Z. HUTCHINSON.

Rogersville, Mich., March 21, 1884.

I know there is great difference in locality, in regard to this matter of propolis, friend H.; but I did not know there was a locality where bees brought so little that it would not injure smoothly planed wood. Perhaps you would say that the varnish with which they cover the inside surface of both smooth and rough work is not propolis; but in our locality it is a substance that discolors the wood, and renders the sections unsightly and unsalable; and more than that, they very often daub their propolis, too, all over the smooth surfaces. During the height of the clover season, sections may be taken off as soon as sealed, so as to be almost free from this glue, or varnish; but at a special time in July, during the basswood bloom, or about the time it closes, they begin to bring in propolis in enormous quantities, daubing the quilts, enameled sheets, sections, brood-frames, and every thing else, in such a way that, when you go to handle a hive, your fingers often get stuck together so you are almost deprived of the use of them. This surplus propolis is not confined to Medina, either; for I have seen it in different States, and bee-keepers have written about it in almost every State in the Union. Still, I know there are localities where comparatively little of it is found. If the brethren are content to have sections put on their tables after the bees have traveled over the woodwork and varnished it, by all means let them do so. We seem to have got to the matter at last, that, with the Heddon system, we must dispense with separators (or make a separator for each single section, which I should say was not to be thought of), and also consent to let the bees varnish over the bottom-bars of our sections.

Away back in 1876, the plan of supporting sections in the way Heddon does, was described and illustrated (see page 4, Jan. No., 1876), and a good many of us adopted it quite extensively. In our own apiary we used it two seasons. It was then abandoned, as I supposed, by universal consent, because so much scraping had to be done on the bottom-bars of the sections. The arrangement figured there was by folded tins; but Mr. J. E. Moore, of Binghamton, N. Y. (see page 82, Apr. No., 1876), gives us full directions, with bill of stuff needed, for making the Heddon crate, using strips of Russia iron instead of tin. About a year ago friend Heddon sent us a slatted honey-board to be used under the sections, and this might be used in combination with the plan of supporting mentioned above; but I should consider it rather too much machinery. I know there are those who still persist in using this old and abandoned idea; but I have always thought their locality did not abound in propolis as ours does, or they would not use the arrangement very long.

In regard to being able to vary the width of sections: After we once decide on the proper width, I can not see any very great reason for having different widths. Still, it may be easily accomplished with the wide frames, for we can make these any width we choose. With the combined crate we can also have any width we choose by replacing the bottom-bars with such a width as seems desirable.

In regard to side and top storing, perhaps it may be best to take a rising vote on it, as it were. Suppose somebody prepare a table containing the names of the great honey-producers of the land, and see how many have discarded side storing entirely. These are momentous questions; for not only do bee-keepers want to know, but manufacturers of hives and sections would be very glad indeed to know how they should make their hives and sections to offer the greatest advantages to honey-raisers. It might be well, however, in considering these questions, to take a view of the ground that has been gone over in the back volumes of our bee-journals.

WIRING FRAMES FOR FOUNDATION.

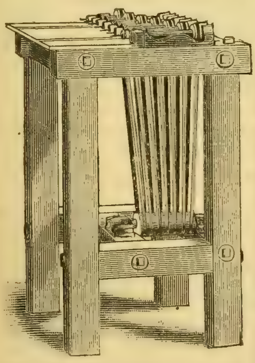
ALSO SOMETHING ABOUT A MACHINE FOR DOING IT.

IT is wonderful, what a general turning there has been toward wired frames. It is but a short time since the idea was first suggested, and now the custom has become so universal, of having all brood-frames strengthened by wires, that only yesterday we sent an order to the wire manufacturers for a whole ton of No. 30 tinned wire. When we first began to wire combs, plain iron wire was used, and it was very soon reported that the bees disliked the wire; and where larvæ rested against it, the action of the food on the wire produced rust, killing the larvæ. Very soon, however, C. R. Carlin (the same friend who gave us the foundation-cutter) suggested that we use tinned wire; and in just a few weeks, reports came from right and left that the tinned wire worked all right, and that good healthy bees were hatched right on the wires. That the coating of wire may be perfect on every inch of it, the ton we are having made now is to be double tinned. The wire is beautiful to look at as it comes in coils from the factory, shining like burnished silver. As the coating is pure tin, it is not acted on by any of the juices or acids that may be found in the bee-hive. After one set has been hatched in the cells, the wire is protected by a thin silky cocoon; and then it is, to all intents and purposes, just like any natural comb.

Some discussion has arisen in regard to the size of the wire. While No. 36 is used by the Given press, we have decided that it is altogether too light for our combs. For almost every comb in our apiary is liable to be shipped, perhaps clear across the United States, and therefore we want it secure enough to avoid any possibility of breaking down. While No. 36 wire broke quite often, we have never yet had a case where No. 30 has broken after it was put in the frames. Quite a number of experiments have been made to determine how many wires should be put into an ordinary L. frame. Our decision has been that it requires just about seven wires. If a tin bar takes the place of the central one, only six wires are needed. We find the tin bar a necessity to prevent springing the top and bottom bars toward each other; and then with the diagonal wires to prevent any possibility of sagging, it seems to me we have it about complete. In the cut in our price list, the spaces are all equal—that is, the wires are set the same distance from the end-bars they are from each other. As this necessitates fastening the fdn. to the end-bars, which is somewhat troublesome to do, we now bring the outside wires within one inch of the end-bars, spacing the whole of them a little further apart; in practice we find it holds the foundation perfectly.

The question now comes, How shall we fasten the wires in the frames? Many devices have been suggested and used, as our readers are aware; but we have found nothing so cheap and simple as drilling holes in the top and bottom bar, by means of the machine shown below:

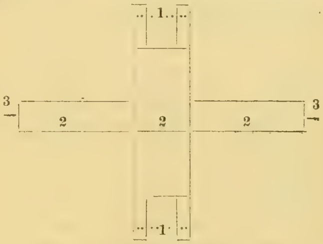
MACHINE FOR PIERCING TOP AND BOTTOM BARS OF BROOD-FRAMES.



Seven small mandrels are arranged side by side in an iron frame. Each mandrel has a chuck in the end, for holding a drill. When we first made the machine we used ordinary twist drills; but as a great many got broke, we were surprised to see that a steel wire nail flattened like a common brad-awl, would drill just as fast as a twist drill, and if broken, the expense was nothing. These mandrels are run by seven belts from an iron pulley, or drum, below. The drive-pulley, for attaching power, is not shown in the cut. The operator sits at the left of the machine, takes a bundle of bars in his fingers, and lays them on the ways in front of the drills. They are then crowded squarely up, and four or five are pierced at once. Where the tin bar goes, a drill is used slightly larger, although not large enough to let the end of the bar go through. This larger hole guides the girls in putting the loop of tinned wire through it, and it also facilitates slipping the tin bar in just where it is wanted. (See page 238.)

Perhaps more than one of our friends have had some experience in getting this fine tinned wire tangled up. If your time is valuable you might as well throw the tangled coil away and buy a new one. The coil should be unwound on a pair of swifts, or something similar. Here is a letter, just at hand, from a friend who tells how he does it:

Speaking of wire on spools, I don't like it. If you have ever told us how to manage a pound of wire without snarling or kinking it, I have not heard the sound of your voice. With my little reel I can unreel a pound without a kink; and the many pounds you send out to persons who have not much knack and no experience with the "frisky critter," you should send a reel, or instructions for keeping it inside of a 10-acre lot, at least. Below find a sketch of mine:



TOWEL-RACK REEL.

A piece of ½-inch pine, 11 inches long, 2¼ wide, forks cut as at 1; pass a 2¼ wire nail through a large thread spool at the dotted line; after, you slip the 11-inch piece through an axle, 2 (mine is a piece of broom-handle), with a 2¼ wire nail, 3, to revolve in a slot at the end of arms that may be fastened to the ceiling, or where the reel is out of the way when not wanted. Spring ½ lb. or 1 lb. over the spools; fasten the end of wire you don't want, and gently pull the end you *do* want. H. M. H.

REVERSIBLE FRAMES.

FRIEND BUCHANAN GIVES US SOMETHING FROM ACTUAL EXPERIENCE.

THE winter of 1880-'81 being the most trying on bees of any we have ever had, destroying 95 per cent of the bees of this part of the country, was preceded by the poorest honey season we ever saw. When the honey season was past, there was not an average of 5 lbs. of honey to the hive. It was thought at that time by some who had experimented with grape sugar, that it was safe feed for bees when used with syrup, equal parts, made of best granulated sugar. Then thinking this a less expensive food, our bee-keepers here fed this stuff, which might have done in an open winter; but that winter seemed to have no mercy. Out of my 80 colonies, but 15 got through, and none of them occupied more than one or two combs before the first of May, at which time brood began to hatch. These few little squads of bees were increased that season to 70 heavy colonies, and a few hundred pounds of surplus honey.

And now comes my first experience with reversed frames. When these 15 weak stocks occupied to the full capacity the brood department, I filled the second stories with frames of brood-combs, placing these upside down, letting the top-bars of upper and lower frames come close together, thinking by this arrangement the queens would more readily go to depositing eggs in upper frames. These frames were held at a proper distance apart by a device similar to that used on frames when shipping colonies, and the frames covered with quilts. About all of these combs placed in this position lacked from ¼ to ¾ of an inch of touching the bottom-bar of frame. After the bees had gathered honey pretty freely for a few days I examined them, and was surprised and pleased to find the new order of affairs within. The combs were all built up solid inside the frames, and well fastened. All were now divided, making 30 full stocks, at once, and again these were treated as before, to a full set of frames of comb, and soon built up, and in a short time again divided, giving me 60 full colonies. By taking frames of brood and bees from these as they grew strong, another ten colonies were created, and about all my combs built up solid in frames. By this process it is an easy matter to get all your combs attached to all parts of the frame.

I like this order of things, but I am not certain that it will ever pay to make the expense of arranging the frames with reversible projections. The advantage supposed to be gained by this up ending business might be more imaginary than real. True, all the honey, or almost all, could be forced into the surplus boxes; but suppose it was (by all this untimely disturbance of the bees while they are busy at work in the sections, tending to check work and confuse for a time), would the loss in honey, loss in time to the bee-keeper, and all, more than balance the little gain? That is, suppose you did induce them all to store the honey above, and take it off and get your money for it, is that all the use you ever expect to have for these bees? What will they do for stores to winter on? fill up with fall honey? Yes; but in most places none is gathered. Feed sugar to all that pile of bees? Why, that is too much work for me, and it will pay *no* man. Besides, if you were seen feeding so much stuff, people would get an idea that you make your own honey. Some claim that, by reversing the frames, pure Italians are induced to put their honey in boxes. Well, I will say to you, if I have got to hang about a hive of bees that must be "upset" every few days, in order to get any honey out of them, you may count me out. I don't want any of that kind of stock; but I am aware of the fact, that all lovers of bright, quiet bees have the kind that take coaxing to get them to put honey in sections, and, for that matter, *any place else*. If I had a strain of bees that was backward about storing in the upper stories, I would set about improving its "higher" intellectual power (if by no other means), by infusing a little black or German blood into its make-up. This process is inexpensive, and it will "fetch 'em" every time. I like real improvements that will pay; but when I see so much reversing and revising in our business, and useless devices that are only *notions* of improvements, and causing beginners and the uninitiated and unwary to "fool away" their hard earnings, I feel like sounding the alarm of caution. J. A. BUCHANAN.

Holliday's Cove, W. Va., March 13, 1884.

Why, friend B., you do not seem to be aware that you have struck upon a big thing. You have told us how we can use the frames we have got, as reversible frames, without doing a thing with them, or without adding a copper in the way of expense. After I read your letter I went and got some Simplicity hives and frames, and found they would go in upside down as well as in any other way. Another thing, putting the top-bars tight together gives us one great sheet of comb, 17 5-8 x 18 1-4. You see, the queen when she gets under way can just swing in a great big circle, skipping over double top-bars when she comes to them. The only trouble is in getting the upper story on with the frames all in. We can put in about half of them without any trouble, by just turning them diagonally as we set them down, and swinging them around into place. Your idea of the spacing-boards (figured in our price list) solves the problem, however. Take a spacing-board, and, with a saw, cut it up into strips so that each strip contains notches to slip over and space the frames. Now put the upper set of frames on with top-bars down; slip on enough spacing strips to keep them in place; now slip down your upper story, and there you are with the upper set of frames reversed. When you want to get them out, you will have to cut the attachment all around where the combs come next to the hive, and slip the hive off; then we can put them back, right side up if you choose. Now, friends, all of you can test reversible frames, without making any thing different. If a crate to hold sections is put over them, it will have to be made so as to drop down a little, because the bottom-bars are a little lower down than the top-bars usually are, the bee-spaces being filled tight between the upper and lower stories. The spacing-boards figured in our price list are not the thing, however, for they are made to hold nine frames instead of ten. If you have nine combs in the brood-chamber, however, it will work all right.

BUYING BEES IN THE BROOD, VS. BY THE POUND.

FRIEND PERRY MAKES A FURTHER DEFENSE OF HIS PLAN.

THE convenience of receiving live bees by the pound, where a person has combs on which to place them, can not be denied; and where a person has a weak swarm with a valuable queen, a pound of bees, more or less, turned in with them just sets them booming. But as transporting bees in that way is almost unavoidably attended with a great deal of suffering on the part of the bees, and consequent loss to the shipper, a more natural way of moving them becomes very desirable.

The beauty of sending bees in sealed brood, estimated by the thousand, is apparent to any one; and in pleading for this method of estimating and shipping bees, I have *not* overlooked the "important

point" of the confusion in frames. I have "racked my brain" to remedy that point, until I am sure I have it, if all parties will agree to it. Let the case be light and strong, well ventilated, and so arranged that an entrance can be easily opened at the bottom on one side, or end. Have all the brood as near the hatching-point as possible. Let the buyer place the case on his hive, with the entrance directly over the entrance to the hive; or the case may be placed in front, and close to the hive. There the bees can be allowed to fly for a few days until all are hatched, when they can be turned into the hive, and the case removed. If there is a queen with the nucleus, she should be confined by a wire screen or perforated zinc division-board, to one or two of the combs until the brood is two-thirds or three-fourths hatched, when she, with most of the hatched bees, should be put into the hive, and the case left until the rest are hatched, when they, too, can be turned into the hive, and the case and combs returned to the shipper. Thus if the buyer will order a little earlier, he can get his bees in a more compact form, estimated just as accurately, and 10 to 20 per cent cheaper, than he can by the pound; and with a trifle more attending to, he can have them transferred from the combs in which he receives them to his own.

There are circumstances under which it is far more convenient to receive bees alive and full grown, than in any other way. Therefore let us work to improve the conditions in which we ship them, by the pound, until we can send them 900 miles in the hottest weather, without loss. Still, I for one shall try to persuade my customers to take them in the brood, estimated by the thousand, whenever it is possible for them so to do. S. C. PERRY.

Portland, Mich., March 17, 1884.

Very good, friend P. Your plan will work, and I believe has been adopted, to get the brood out of the unshapely bits of comb while transferring. The objections are, briefly, as I see them, in most hives it would be difficult to find solid patches of brood all hatching about the same time. In fact, we usually find more or less unsealed larvæ along with the sealed brood. We shall have to put bees with this to take care of it, and these bees will have to stay in their shipping-boxes till the brood is hatched. If the queen is with them she will be laying all the while, and they won't want to get out. After the bees are hatched, the comb would be lost, and the nicest place for a queen to lay is in the cells left unoccupied by hatching bees, besides the loss of the brood-comb. The shipper may either cut the brood from combs from his own hives, or use little frames, both of which plans we consider bad. Let me digress a little.

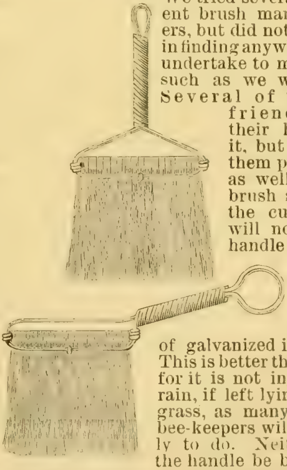
When I was a boy I invented a machine to tie grain-bags. It was a piece of brass spring wire, corrugated by stringing out a coil. On each end was a small leaden bullet. Put it around a bag, slip under one of the small bullets, pull on both ends, and the bag was tied securely. It was untied in an instant by slipping the bullet under the wire, which could be done even with your mittens on. I was going to get it patented when my brother "Marsh" suggested we should look at new inventions is this way. Said he,—

"Brother Ame, suppose all the world had tied bags with your brass wire with bullets on the end, and then suppose somebody should come along who had invented strings, wouldn't we all have considered the strings a big invention?"

The argument so discouraged me that I dropped it right there. Friend Heddon presents the same idea in a recent article. Now, I would suggest to you, suppose we had been shipping bees in the way you mention, and somebody had suggested sending a whole frame, to be lifted right out of one hive, and set right into the hive of the purchaser when received. Of course, either way necessitates a universal standard frame; and my opinion is, there is no use talking about getting along without it. In fact, we have a standard frame; for more than one hundred thousand people are using a frame of one standard dimension, and these people buy and sell and manufacture hives and frames that work interchangeably any way. Now, if you will excuse me for finding so much fault, I want to say that your idea of selling bees in the shape of sealed brood is *the* way, and we must all come to it. In fact, it is the only way we can buy and sell drones that I know of, for drones can not be shipped alive—at least, I have never succeeded in doing it.

BRUSHES FOR BRUSHING OFF BEES FROM THE COMBS.

ANOTHER IMPROVEMENT.



DAVIS' IMPROVED BEE-BRUSH.

AFTER the notice of friend Cook's death last fall, there was quite a little inquiry for his improved brushes, and pretty soon our stock was all exhausted. We tried several different brush manufacturers, but did not succeed in finding any who would undertake to make any such as we wanted. Several of the bee-friends tried their hands at it, but none of them pleased us as well as the brush shown in the cut. You will notice the handle is made of galvanized iron wire. This is better than wood, for it is not injured by rain, if left lying in the grass, as many careless bee-keepers will be likely to do. Neither will the handle be broken in two if they get their clumsy feet on them (I include myself in the above, for I am a bee-keeper, and my feet are sometimes clumsy). I tried to buy the idea of the friend who got them up, but here is what he says about it:

Friend Root:—You wanted to know what I would take for my idea. That, I will not sell. I will make you a proposition; and if it suits you, all right: I will agree to furnish you all you want, and I will not sell to any one else, if you will advertise them in GLEANINGS regularly and in your price list, and agree not to sell them higher than 15 cents retail.

Ballstown, Ind., Feb. 4, 1884. J. S. C. DAVIS.

They are made, as you will notice, in two forms. Some will prefer one, and some the other. The brushes measure about 8 inches, handle and all. Length of fiber, about 4 inches; width of fiber where it is fastened in, 4 inches; width of the brush, about 5 inches; so you see that two sweeps will cover an L. frame. In ordering, please designate them thus: "Straight handle" and "bent handle." For the present, prices will be as follows: One brush, 15 cents; by mail, 3 cents each additional; 10 brushes, $1.25; 100, $10 00.

The friends will observe that these brushes are made of a soft fine vegetable fiber that will roll young bees from the combs without injuring them or making them angry. If the brushes get daubed with honey, wash them in water, for neither fiber nor handles are affected by wet. As your brush is liable to get lost, I think it will pay you to have at least two or three. Have one hung up in your extracting-house, another hung up on a post in the apiary; or for a large apiary, have them hung up in two or more places. Then make every one who uses them hang them up, instead of laying them down. If you follow this up thoroughly, probably at least *one* of them can be found when you are in a hurry.

MOVING BEES TO CATCH THE BASSWOOD FLOW.

A GENERAL "MOVING ALONG" IN THE MATTER.

FRIEND ROOT:—After reading your encouraging remarks on my latest hobby, on page 44, I felt as though you had given us a big lift. Most all you said only confirmed the ideas I have in this matter, except in one particular. You say, "A Simplicity hive, with wire cloth over top and bottom, will do the business nicely." So they will; but to my notion, a Langstroth or lower story of the Simplicity hive will do better. For moving bees I like a solid bottom-board, because they are easier prepared, better to handle, and when you are ready to let the bees fly, it can be done in a twinkling. I have moved my bees so often that I could tell a long story from experience. I would cover the portico with wire cloth, which can be done very fast, if every thing is in readiness, as it should be. I would make the cover in the following manner: Take a Simplicity cover; have a tin top instead of the broad board. After nailing the rim together, put on the tin in such a way that it can be taken off without much trouble. This will be a cover for ventilation when the tin is off, and a tight cover when the tin is on. I think it would be an improvement, if the tin could have a slight rim turned down, say ¼ to ½ inch deep. I will order a lot of hives from you with tin covers, to make the experiment. To get bees ready for shipment, put the spacing-boards in all the hives; cut off ½ inch from part of them to use at the front or entrance; drive in a nail to hold them up. When bees are quiet, nail the wire cloth over the portico; and last, take tin top off from the cover, after fastening the cover to body, and the hive is ready.

"AND THE FLOODS CAME."

It was my intention to send you this article at once; but the flood turned me so upside down that I could not well do it. In 1882 the water was three feet in my bee-yard; in 1883, 8 feet; in 1884, about 17 feet. This last was a "damper," and I got out and moved my dear ones out of the second-story window at two o'clock in the night. I tell you, friend Root, on such occasions we find out how near and dear they are to us.

GENEROSITY AMONG BEE-KEEPERS.

I was very much pleased, and I feel thankful too, for the information and kind invitation from our friend George Hilton, on page 80. I think we should enjoy paying our friend H. a visit, and accept his assistance, so generously offered, to have teams in readiness at the railroad station to move our bees. On reading his article I said to myself, "Here is another whole-souled brother bee-keeper;" and allow me to say here, that in no other pursuit have I ever come across a set of men so ready and generous to give their experience free of charge to their fellow-men. With bee-keepers, generosity seems to be the rule. I have never yet found a bee-keeper who put up a notice on his workshop, honey-room, or any where, "*No Admittance*," or would not answer questions freely concerning the art of bee-keeping. There is, however, one thing which we would desire in regard to a location to move to, to have it, if possible, on the line of some railroad.

DOOLITTLE'S ARTICLES, ETC.

On page 160, March GLEANINGS, I noticed friend Doolittle's article on basswood. By the way, I have a peculiarity of finding friend D.'s articles in GLEANINGS almost always first, notwithstanding the strong notion I have to try friend Heddon's way of getting box honey. I have always read friend D.'s articles with great interest, and have profited much by his teachings. Well, friend D. made it all as plain as A B C, and gave us his experience of twelve years with basswood. I do not see any thing to hinder us from trying the experiment, unless it be the farm I bought last week near town. I am of the same opinion as our friend Mrs. Axtell, that a man should have some occupation linked with bee-keeping, and I think a farm in grass and fruit answers the purpose well. I also indorse every word that our lady friend writes in the March number, which just came to hand.

We have as yet heard nothing from the particular field in Northern Ohio, where we thought of making the first trial. I do not know whether the field is stocked with bees so much that we would be regarded as intruders, or whether it has been overlooked. I would say this, that we expect to pay the friend for his trouble and time, who gets us a location, if we can make use of it. Are there not, somewhere between Oak Harbor and Toledo, timber tracts where basswood is plentiful? We should like to hear from the friends, either in GLEANINGS or by private correspondence.

Since writing the article in January number, another friend has come forward to join us in the enterprise, so that we shall be able to fill a car. We can get a car from here to Toledo for $46.00, and one man allowed free; perhaps we can do a little better yet. We hereby tender our thanks to you, friend Root, and also to friends Hilton and Doolittle, for kind advice and assistance. R. STEHLE.

Marietta, Ohio, March 18, 1884.

A GOOD REPORT FROM THE WEST INDIES.

Modern Bee-Keeping on the Island of St. Domingo.

FRIEND SÓBÓTKER GETTING HONEY OF A GOOD QUALITY BY THE TON.

I HAVE been very busy taking in the honey crop, which opened here in Nov., and is still lasting, principally from the bell-flower vine, called "campanilla," or "aguinaldo," in Spanish; but in Latin, *Convolvulus monospermum.* This is the best and finest honey-plant in the West Indies. It blooms together with very many other plants producing nectar; but the bees leave all others for it, and will go very far away to get it. The honey produced from it is very heavy, weighing with me as high as 12 ℔s. to the gallon, and is clear as crystal, as good, if not better, than basswood or linden and white clover of the North. It generally commences to bloom in November, and lasts up to the end of Feb., or middle of March. It grows in a wild state in hedges, pastures, and, in fact, on pretty barren land. I have been extracting from brood-chamber and second stories of 60 hives, but much more from brood-chamber, and have now on hand 500 gallons of the finest honey ever seen here in this island. Forty hives have as yet not been touched, and 36 palm logs still to be extracted, and I suppose the flow of nectar will last this month out; then comes our swarming season, and again in June, July, and August, another flow of nectar, if Providence permits it, and every thing works on as favorably as at present.

The public here are now seeing the good results of the La Fé Apiary, although the hives in themselves are not directly the cause of this; but they give their share of ease in handing their inmates, the bees.

As soon as I find the bees lying out around the entrance, it is a sign for me to alter the ventilation; in fact, I very seldom give them the chance to notify me; as practice tells me more or less when the changes are required; as surplus hives for the honey-extractor, as a second story, or even as a brood-nest for the first story, they can not be beat. I am now trying a few of them for comb honey for home consumption, and I think they will do well at that. That is, using two division-boards, reducing the brood-chamber to six frames. After all the ten frames below are full of brood and honey, this must not be touched on any account; but the surplus 2-℔. boxes are put on immediately over the brood-frames, leaving the full ten frames below. I find, generally, two frames on either side of brood-chamber, with honey alone perfectly capped over; this I leave just so during the season; and by so doing I get the bees very easily up into the surplus arrangement.

I have now taken, within the last two weeks, from one trial hive, 30 2-℔. boxes, and have the lower story, or brood-chamber, filled with say the one-half of 6 combs or frames with brood, and the top half with honey, besides 4 frames quite filled with honey, so I do not consider this a bad yield. They do as well for extracting, as I find the half of each frame in brood-chamber with brood in all stages, and the other upper half with sealed honey; and the second story, where I work with only 9 and 8 frames, I have taken from many hives, during this season, combs (Given's foundation put into frames wired), drawn out to the thickness of 3 inches, and weighing, before put in the extractor, 12 ℔s.; and after being emptied, frame and comb weighed 2½ lbs. each, leaving a net result of 9½ lbs. of the nicest honey that can be produced here.

I have been very much troubled during this busy time by visitors from our Capital here. Among the notables, the President of this Republic and his cabinet of ministers, leading planters, merchants, and ladies of our English-speaking part of the community, all very much delighted to see the progress in apiculture. LORENZO J. DE SÓBÓTKER.

St. Domingo City, West Indies, Feb. 16, 1884.

Why, friend S., do you really mean to say that visitors are a trouble to you, especially notable ones, like those you have mentioned? This thirst for knowledge is one of the grand features of the present age, and I am sure you will find your reward in ministering to it, and treating all these friends with kindness and courtesy, which, of course, you do. You need an assistant, I should say, and it seems to me you also need to sell bee-books and bee-supplies. While you are talking and explaining, show the books, and you will, I think, almost invariably make sales that will amply pay the wages of a competent assistant. I am greatly rejoiced to find the industry so well started in the West Indies, and I look forward to a rapid growth of the industry, and a corresponding development of the trade in West-India honey, secured by means of modern appliances, of a quality equaling, perhaps, any we have in the world. Go on; and may God bless you in your efforts.

ERADICATION OF FOUL BROOD.

STAMPING IT OUT OF EXISTENCE.

WE take the following from a printed circular sent by the N. E. B. K. A. It seems to me it is *the* thing exactly, and I earnestly hope every State in the Union will fall in line, follow suit, and have it carried out. It would be a real kindness, also, to slovenly and slipshod bee-keepers, to oblige them by law to keep posted, and take care of their stock. It seems to me to be just in spirit with the progress of the present age; and may God help us all to do our duty in all such works of reform!

A BILL TO PREVENT THE SPREAD OF FOUL BROOD AMONG BEES, AND TO EXTIRPATE THE SAME.

SECTION 1. The people of the State of New York enact: That it shall be unlawful for any person to keep in his apiary any colony of bees affected with the contagious malady known as foul brood; and it shall be the duty of every bee-keeper, as soon as he becomes aware of the existence of said disease among his bees, to destroy or cause to be destroyed forthwith all colonies thus affected.

SEC. 2. In any county in this State, in which foul brood exists, or in which there are good reasons to believe it exists, it shall be lawful for any five or more actual bee-keepers of said county to set forth such fact, belief, or apprehension, in a petition addressed to the judge of the county court, requiring him to appoint a competent commissioner to prevent the spread of said disease, and to eradicate the same; which petition shall be filed with and become a part of the records of the court where such application is made.

SEC. 3. It shall be the duty of the County Judge, on receipt of the petition specified in section two, of this act, to appoint within ten days thereafter a well-known and competent bee-keeper of said county, as a commissioner, who shall hold his office during the pleasure of said court; and a record of such appointment, and revocation, when revoked, shall be filed as a part of the records of the said court.

Sec. 4. It shall be the duty of said commissioner, within ten days of his appointment as aforesaid, to file his acceptance of the same with the court from which he received his appointment.

Sec. 5. Upon complaint of any two bee-keepers in said county in writing and on oath, to said commissioner, setting forth that said disease exists, or that they have good reason to believe it exists within said county, designating the apiary or apiaries, wherein they believe it to be, it shall become the duty of the commissioner, to whom such complaint is delivered, to proceed without unnecessary delay to examine the bees so designated; and if he shall become satisfied that any colony or colonies of said bees are diseased with foul brood, he shall, without further disturbance to said bees, fix some distinguishing mark upon each hive wherein exists said foul brood, and immediately notify the person to whom said bees belong, personally or by leaving a written notice at his place of residence, if he be a resident of such county; and if such owner be a non-resident of such county, then by leaving the same with the person in charge of such bees, requiring said person, within five days, from the date of said notice, to effectually remove or destroy said hives, together with their entire contents, by burying them or by fire.

Sec. 6. If any person neglects to destroy, or cause to be destroyed, said hives and their contents in manner as described in section five, after due notification, he shall be deemed guilty of a misdemeanor, and punished by a fine not to exceed fifty dollars for the first offense, and for each additional offense he shall be liable to a fine not to exceed one hundred dollars, at the discretion of the court; and any justice of the peace of the township where said bees exist shall have jurisdiction thereof.

Sec. 7. The commissioner shall be allowed for services under this act, two dollars for each full day, and one dollar for each half day, the amount to be audited by the board of supervisors.

Sec. 8. In all suits and prosecutions under this act, it shall be necessary to prove that said bees were actually diseased or infected with foul brood.

At the close of the above paper appear names of the members of the association, including L. C. Root, President; C. G. Dickinson, Vice-president; G. W. House, Secretary; A. Bacon, Treasurer.

ROOTS OF THE FIGWORT, OR SIMPSON HONEY-PLANT.

ALSO SOMETHING IN REGARD TO ARTIFICIAL PASTURAGE.

THESE, after having wintered over, can be shipped by mail almost as safely as a horseradish-root or a potato. We shall commence taking them up as soon as the ground thaws enough for them to start. Price as follows: One root by mail, 5 cts.; 10 roots by mail, 35 cts.; 10 roots by express, 20 cts.; 100, $1.50; 500, $7.50; 1000, $12.50. These will, with good care, grow from five to ten feet high, and all bear blossoms from July to frost. Each plant produces thousands of the little flowrets, and each flowret will have its drop of honey sparkling in it every day. Now, friends, while we are glad to furnish you these, I feel it my duty to say that they are mostly raised only as a curiosity, unless you should purchase enough to plant an acre, and I do not believe it would pay for the labor and cultivation. If you want to raise honey for your bees, the only way to do it and make it pay financially is to sow alsike, mammoth red clover, buckwheat, rape, honey-peas, or something of that sort, thus getting a crop that will pay expenses besides the amount of honey produced. In my opinion, alsike clover is the best and safest honey-plant known. The pea-vine, or mammoth red clover, I am not so sure of. Buckwheat is tolerably sure, but the quality of the honey is not very good for the market. Honey from rape is fair, and the crop tolerably sure, where not destroyed by the little black flea. Honey-peas have not yet been sufficiently tested. As yet, I do not believe there is any plant known that can be cultivated profitably for the honey alone.

TRANSLATION OF HUBER.

FRIEND VIALLON GIVES US SOME SUGGESTIONS, AND TELLS US SOMETHING MORE OF THE BEE-BOOKS OF THE WORLD.

FRIEND ROOT:—I think the idea of making a translation of Huber's works is a capital one, and also forming a club; but I think the name ought to be "Langstroth Bee-Keepers' Club," or some name besides Langstroth, to convey the idea that it is a bee-club.

I think the best man we could get to translate the work would be our friend Chas. Dadant, as he is not only a good French scholar, but he knows the English language well. Huber's original work is probably in the hands of Mr. Dadant, or may be had from Mr. Ed. Bertrand, editor of the *Bulletin d'Apiculture*, at Nyon, Switzerland.

Allow me to correct Mr. Phin in regard to the dates of publication of Huber's works. The "Nouvelles Observations sur les Abeilles" was first published in Geneva, Switzerland, in 1792, and republished in Paris, France, in 1796. In 1814 a new edition, with additions by Huber's son, was published in Paris. A German translation was made in 1793 at Dresden, Germany; and in 1806 an English translation at Edinburg, Scotland. In 1859 another translation was made in German by G. Kleine, at Embeck, Germany. Mr. Phin is right when he says that the number of bee-publications is over 800, of which there are over 400 in German, 200 in French, and the rest in other languages.

The first book on bees I know of was published in 1568, in German; the next in French, in 1582; and next came the one mentioned by Mr. Phin, in English, in 1592.

From 1568 to 1699 there were 25 bee-books published; and from 1700 to 1800 there were 237, in different languages, etc. If I had time I would give you a list of all, or nearly all, the works published from 1568 to 1883.

Now, friend Root, you ought to stir up this question of translating Huber into English, as I am sure it would be accepted with pleasure by American bee-keepers. I have no doubt that the steel plates could be procured from Switzerland or Paris, and I am sure that we could get all the help in that respect from our friends Ed. Bertrand and Chas. Dadant.

P. L. VIALLON.

Bayou Goula, La., Feb. 6, 1884.

Friend V., I have corresponded with friend Dadant, and he says he has a copy of Huber in the original, and suggests that he might translate it for us. Another good friend sends the following:

Dear Sir:—As it seems to be your desire to have a good translation of Huber, and myself believing that it would be a valuable addition to our bee-literature, I venture to make the following proposition: If you will consent to publish Huber in English, I will, with pleasure, translate it from the French into the English, free of charge. As I am a Creole, the French language is my mother-tongue; but I speak and write both languages with fluency and correctness. Hoping you will accept my services, I remain

Yours fraternally, NUMA C. ELFERT.

Tabadieville, Assumption, La., Feb. 7, 1884.

Does it not seem, friends, as if we were going to have plenty of help in the matter? May God bless you, my good friend, for your kind offer. Here is something more in the matter, from Mrs. Frank Benton, of Munich, Germany. As the title-page and preface are matters of great interest to us all, I presume Mrs. Benton will excuse the liberty I take in giving it here:

I see by JUVENILE for December, that you ask about Huber's work on bees. It may be interesting to you to know that Mr. Benton is translating it. He wrote to Paris last fall, and succeeded in procuring a copy printed in 1796, and has since been devoting what spare time he could to it. As I know he has not yet arranged for its publication, I would suggest that perhaps this translation may be available to you. Part of it is here, and I copy the title-page and preface, that you may form some idea of it. Yours respectfully,

MRS. FRANK BENTON.

No. 8 Georgen St., Munich, Germany, Feb 7, 1884.

The following is the title-page alluded to by Mrs. Benton:

NEW OBSERVATIONS ON BEES,
ADDRESSED TO
MR. CHARLES BONNET,
BY
FRANCIS HUBER.
TRANSLATED FROM THE FRENCH BY
FRANK BENTON.

PREFACE.

In publishing my observations concerning bees, I will not conceal the fact that it is not with my own eyes that I have made them. Through a series of sad accidents, I became blind in my early youth; but I loved science, and I did not lose my taste for it with the loss of my sight. I had read to me the best works on natural history. I had a servant (Francis Burnens, born in Vaud) who interested himself singularly in all that he read to me: I soon judged by the reflections he made on our readings, and by the inferences he drew from them, that he comprehended them as well as I, and that he was born with the talents of an observer. This is not the first example of a man who, without education, without fortune, and under the most unfavorable circumstances, has been called by nature alone to become a naturalist. I resolved to cultivate this talent, and to make use of it some day in the observations which I was planning. With this aim in view, I had him repeat first some of the most simple experiments in physics; he executed them with much skill and intelligence, and passed on then to more difficult combinations. I did not possess then many instruments, but he knew how to perfect them to apply them to new usages; and when it became necessary he himself constructed the machines which we needed. In these diverse occupations the taste which he had for science soon became a veritable passion, and I did not hesitate longer to put all confidence in him, perfectly assured that I would see well in seeing through his eyes.

The course of my reading having conducted me to the beautiful memoirs of de Réaumur upon bees, I found in this work such a fine plan of experiments, observations made with so much art, and such a wise logic, that I resolved to study this celebrated author carefully, in order, in the difficult art of observing nature, to adapt ourselves (my reader and myself) to his methods. We commenced our observations with bees in glass hives, and repeated all the experiments of de Réaumur, obtaining exactly the same results when we employed the same processes. This agreement of our observations with his gave me extreme pleasure, because it proved to me that I could trust myself absolutely to the eyes of my pupil. Emboldened by this first effort, we tried to make with bees some entirely new experiments: we conceived variously constructed hives that had not yet been thought of, and which presented great advantages, and we had the good fortune to discover some remarkable facts which had escaped Swammerdam, Réaumur, and Bonnet. It is these facts that I publish in this work. There is not one of them that we have not seen and re-seen several times in the course of the eight years during which we have been occupied with investigations regarding bees.

It is impossible to form a just idea of the patience and of the skill with which my reader executed the experiments which I am about to describe. It has often happened that he has followed during twenty-four hours, without permitting himself to be distracted in the least, without taking either repose or nourishment—that he has followed, I say, workers of our hives which we had reason to believe fecundated, in order to observe them at the moment they were laying eggs. At other times when it was of importance to us to examine all the bees of a hive, he did not resort to the operation of dipping them in water, which is so simple and so easy, because he noticed that the stay in the water disfigured the bees to a certain degree, and no longer permitted him to recognize the slight differences of conformation that we wished to note; but he took between his fingers, one by one, all the bees, and examined them carefully, without fearing their anger; it is true, that he had acquired such dexterity that he evaded, ordinarily, their stings; but he was not always thus fortunate; and even when he was stung he continued his examinations with the most perfect composure. I reproached myself frequently for having put his courage and his patience to such a test; but he took as deep an interest as I in the success of our experiments, and, in the extreme desire he had to know the results of them, he counted as nothing the trouble, the fatigue, and the passing pains of the stings. If, then, there is any merit in our discoveries, it is my duty to divide the honor with him; and it is a great satisfaction for me to assure him of this recompense by publicly rendering him justice. Such is a faithful statement of the circumstances under which I find myself. I do not conceal from myself that I have much to do in order to gain the confidence of naturalists; but in order to be more sure of obtaining it, I will allow myself to follow here a slight impulse of vanity. I communicated successively my principal observations on bees to

Mr. C. Bonnet, who found them good, and even urged me himself to publish them, so that it is with his permission that they appear under his auspices. This proof of his approbation is such an honor to me that I am not able to deny myself the pleasure of informing my readers of it.

I do not ask to be believed solely upon my word. I will tell of our experiments, and of the precautions that we took; I will detail so exactly the processes that we employed, that all observers will be able to repeat these experiments. And if then, as I do not doubt, they obtain the same results as we, I will have this consolation: That the loss of my sight has not rendered me wholly useless to the progress of natural history.

[Page 57 of Huber's Book.]

Second letter of Mr. Huber to Mr. Bonnet.—Continuation of the observations on the fecundation of the queen-bee.

PREGNY, the 21st of Aug., 1791.

Dear Sir:—It was in 1787 and 1788 that I made all the experiments of which I gave you an account in the preceding letter. They appear to me to establish two truths regarding which up to this time there existed only very vague information.

1. Queen-bees are not of themselves fertile; they become so only after mating with a drone.

2. The mating takes place outside of the hive and high in the air.

This last fact was so extraordinary that, notwithstanding all the proofs we had obtained of it, we still desired very much to—

I have compared the above with the book on Huber, sent me by friend Henderson, and it is entirely different from it. If the book is to be written in the same spirit and vein of the preface given above, what bee-keeper is there who would not want it? Now, friends, the facts are all before you. What shall we do about it?

HOLY-LAND OR SYRIAN BEES.

ALSO A GOOD WORD FOR THE SYRIO-ITALIANS.

FRIEND ROOT:—On page 81, GLEANINGS for Feb. 1, friend Green gives a description of his Syrian bees, and then asks the question, "Are they pure Syrians?" From the experience I have had with them, I can only agree with yourself in thinking they are a cross between the Syrians and Italians.

In 1882, after reading a great deal about the Syrians, I resolved to get some, and was fortunate enough to get one of the Jones imported queens. I introduced her to a colony of Italians in June; and by the time what we call our fall crop of honey came on, they were about all Syrians, and a powerful colony too. As the prospect for honey was very flattering, I expected something extra from them. So I picked out two colonies, one a pure Italian, the other what friend Heddon calls a cross between the German and Italian, to compete with them. All three colonies were as near alike, as it was possible for me to judge, in bees, brood, honey, comb, size of hive. Every thing being ready, on went the sections. The bees took possession at once. Each seemed to understand I wanted them to do their best; and as neither attempted to swarm, they soon were crowded. I gave them room by adding another case of sections, which was followed, before a great while, by a third. Each case contained 30 one-pound sections, which, when taken off and weighed, the difference of 5 lbs. was not found between them. Neither gathered any more surplus, nor gained in body of hive. This satisfied me there was not much difference in their working capacity. I found that the Syrian queens were wonderfully prolific, and hard to find when wanted. The bees are *very* cross, and much like the blacks in running and tumbling off the combs. I believe I was stung more by this one colony than by all the rest of my 40 colonies. I resolved to replace this queen as soon as possible with an Italian.

Some time in September, in looking through this hive I found a great many capped queen-cells; and upon further examination I could find no eggs nor young larvæ. I found the old queen outside the hive dead; and as she had a mashed appearance, I thought I must have injured her somehow the last time I opened her hive. As she was very prolific up to that time, I could see no reason for the bees superseding her. I cut out all queen-cells, and introduced an Italian queen. As many of these cells were extra nice, I thought I would save one and get the queen mated with an Italian drone, which I did. She was almost an exact duplicate of her mother. She went into winter quarters with fewer bees than I liked, and came out in the spring very weak, bees covering only three of my frames, 9½x11½ inches, inside measure. These bees were not nearly as cross as the original stock. The queen seemed to possess the great fertility of her mother. By spreading the brood and inserting empty combs (I was careful to exclude all drone comb, as I did not want to get them mixed with my Italians), I had them ready for the boxes by the time white clover came.

It was cold and wet all through clover bloom, and we had no fall crop; still this colony made more than 70lbs. of honey in 1-lb. sections, which was much better than some of my Italians did that were twice as strong in the spring, and all given the same attention. I am wintering the queen again. If she winters all right, I will give her a still further trial the coming season; I will also raise a few queens from her, and cross them with the Italians. This, I think, will still reduce the crossness of the bees, while the queens, I hope, will still retain the fertility of the pure Syrians, at least to a great extent. This great prolificness with some (so *they* say) is an objection; but I have never seen the queen yet that would lay too much for me at any time of the year. If I can get a bee that can beat the Italians in building up for the early crop of honey, and still be as easy to handle, I want it.

My experience with the Italians has been very satisfactory; but let us not cease to experiment; and if there is any thing better, let us have it, by all means. The only point I can see where the Syrians beat the Italians is in the wonderful fertility of their queens. But the viciousness of the pure race will for ever bar them, I think, from becoming popular with most bee-keepers. When the season arrives, if friend Green will take the trouble to mail me some of his bees I will return some that I know to be Syrio-Italians; then he can judge by comparison what his are.

My bees are wintering nicely so far, and are in much better condition than they were this time last year; although we have had, from the commencement, steady cold weather. I think my bees are coming through stronger this spring than ever before; at least I hope so, as I want to do more in the bee business the coming season than ever before.

J. W. KEERAN.

Bloomington, Ills., Feb. 7, 1884.

WHAT SHALL WE DO TO PREVENT SWARMING?

Or What shall We Do after They Have Swarmed?

DR. C. C. MILLER'S PLAN OF MANAGING.

ONE of my greatest difficulties is—swarming. I don't know how much harm it does in the way of lessening the yield of honey, but at least it is a great deal of trouble. One of the most successful producers of comb honey I know, says he would like to have every colony he has send out a prime swarm, even if he wants no increase; and with his management it may be all right, but I should like to be able to raise comb honey and have no swarms. Failing to prevent swarming, the next important item is to know what to do when swarms do issue, and we do not desire increase. I am still studying on this problem, by no means satisfied that my plans are best, but for the benefit of the inexperienced I will give somewhat in detail what I do with swarms.

When a swarm issues, the queen is immediately caught (all my queens are clipped), caged, and placed somewhere about the hive or super (usually in the upper part of the super) where her bees can take care of her. No attention is paid to the flying bees of the swarm; they can return to the hive at their own pleasure when they find no queen is with them. In case the queen is not found, they will likely issue again in a day or two, as the queen usually finds her way back to the hive if not caught. Occasionally, however, the queen may stray off and be lost entirely, but such cases are very rare. If for any reason I do not wish to keep longer the queen of any swarming colony, she is at once destroyed. The next day after the swarm issues, or if it does not suit my convenience sooner, sometimes as late as the fifth day, I go to the colony, with an empty hive placed conveniently in front, take off the super or supers and place to one side, then take out the brood-frames, giving each frame one good shake, so as to shake a good part of the bees back into the old hive, placing each frame with the remaining bees in the empty hive. This leaves the old hive on the old stand with no frames, only some bees in it. Into this hive I put two or three frames of comb obtained elsewhere, having no unsealed brood in them, only eggs or eggs and sealed brood. These two or three frames I put in the south side of the hive (my hives face east), put a division-board next the frames, then a dummy or another division-board, leaving the rest of the hive vacant. Then the supers are replaced as they were before, and the hive which now contains the brood-frames is placed on top of all, with the entrance facing the same way as the old hive, there being no communication whatever between the upper and lower hive. I now let the queen run down between the frames among the bees in this upper hive. If their own queen has been destroyed or lost I give them another in the same way, taking no precaution about introducing. The tin tag which numbers the colony is changed from the lower to the upper hive. In three or four days more I look to see if the queen is laying all right, although I do not know that this is essential. In eight or ten days from the time of putting up the colony, sometimes even twelve days, I lift off every thing from the stand, put the hive with the queen down on the stand, put on the supers, empty out the bees from the old hive in front of the one now on the stand, and the job is done. In a few words, I put the combs with the queen and enough bees to take care of them in a new hive on top of the old one, where she can lay as much as if all the bees were with her, and after she gets well over the swarming fever put this hive down on the stand. Some one may ask whether I don't cut out the queen-cells. I pay not the slightest attention to them; the bees do it perfectly, without ever missing one hidden away in some corner, as I might do. This I consider a great advantage. The reason for putting the hive on top instead of in some other place is that the bees may all remain at the old stand when the change is made. When the hive is put down, the bees which have marked the upper entrance, after returning from the fields, try to find an entrance on top, a little cluster is formed, and soon a line of march is formed over the supers down to the entrance below. I am not at all certain but I may learn, within six months, some better plan, and discard this entirely, but at present I know of no better way. I do not know of any one else who uses the same plan, except Mr. H. W. Funk, of Bloomington, Ill., and I am sure he did not learn it from me. I should be glad to know from him if there may not be some points in which he can suggest improvements.

C. C. MILLER, 172—249.

Marengo, Ill., March 5, 1884.

Friend Miller, your plan is, I should think, a good one; but you did not tell us what you do with those "two or three frames of comb obtained elsewhere." I presume likely you carried them away for a nucleus, for they would have queen-cells; and after you have waited more than ten days, a queen possibly. The idea is not particularly new, except that plan of putting combs and brood and queen on top of the regular hive. How about that empty space in one side of the lower hive, and why don't they build combs in there? or are they to be fastened out of this empty space? Will they work in a super without their queen, and so many of the brood-combs gone?

Perhaps some of our readers may ask what those figures are after your name, and I shall have to tell them it is a hobby of yours, and one which you ride pretty vehemently, for making every one tell in a few words how many bees he had the first of last May, and how many he has got now. I think it is a very good idea indeed; but unless I keep a standing notice, it is hard to bring the brethren into a way of doing it. If I put in a standing notice, where shall I put it? Perhaps right under the title to Heads of Grain will do; and suppose we make it read like this:

> Our contributors are requested, when writing or making reports, to indicate how extensively they are engaged in bee culture, by telling us how many colonies of bees they had the first of the preceding May, and also how many they have at the date of writing. For instance, "John Smith, 25—45," means that friend S. commenced the honey season on the first of last May with 25 colonies, and that he has now 45.

MRS. COTTON'S REPLY.

ARE BEE-KEEPERS AS A CLASS, HARD TO PLEASE?

MR. ROOT:—In your issue of GLEANINGS of March 1, you state on page 169, "If Mrs. Cotton proposes to make good all dissatisfaction, we will give space for her to say so." Now, what I do propose to do, and what I have heretofore done in all cases, is this: I guarantee every thing purchased of me shall be as represented, and shall reach purchaser in good condition. If damaged in transit, I make them good to the purchaser. I guarantee that all money sent me shall reach me, if sent by draft, money order, or registered letter. I will not be responsible for money sent in ordinary letter form, neither can persons expect to have their orders filled if they fail to give their address in the letter containing their order. I hold several letters, received containing money, and no address given, and postmark on envelope so indistinct that it can not be read, so there is not the slightest chance to reach the persons who sent the money. No doubt the persons who sent the money in this form are loud in their denunciation of Mrs. Cotton, and accuse me of receiving money, and making no return for it, when the fault is the result of their own carelessness. I have in several cases received money from persons who have failed to give their address; but the postmark on envelope being plain, I have set the matter right by writing to the postmaster of that office.

The statement of James H. Dunlevy, that I cheated him out of $20.00, as well as all other statements of like import, I brand as falsehoods, without the slightest foundation. I do not plead guilty of fraud in any form.

Now a word as to what you state about the drawings. First, you state that they are all on one single sheet of paper, or a leaf of paper. The fact is, they are on *seven pages*, and consist of sixteen separate and distinct figures. You seem to think it a fraud for me to sell a small-sized book for one dollar, or the drawings and directions for building hives for $3.00, on such a small quantity of paper! Is it a fraud to pass a five-dollar gold-piece for five dollars? You know a five-dollar gold-piece is not as large as one silver dollar.

As regards information to make bee-keeping a success, *quality*, not *quantity*, is what is wanted.

MRS. LIZZIE E. COTTON.

West Gorham, Me., March 10, 1884.

We are very glad indeed to give place to the above, and now we hope that every one who has any complaint to make will reply to Mrs. Cotton direct, and have it adjusted. In regard to those diagrams being on 7 pages, I humbly beg pardon. They were sent to me two or three years ago, for me to pass my opinion upon them, and my impression from recollection was, that it was all on a single sheet of paper. If they have been enlarged, and more full explanations given, I am very glad. But, $3.00 for 7 pages would be over 40 cts., which we still think is a little high for bee-books. Now, Mrs. Cotton, and other friends, I hope you will not think me forward or presuming when I suggest that the little book be sold for one dollar, including these drawings and specifications; for it does seem to me when one pays a dollar for a book on bees, this book should tell all about how to make the hives the author recommends. Mrs. C. would then rank fairly with other writers on bee culture. I feel quite satisfied myself that her trade would be sufficiently augmented to enable her to furnish the books, drawings and all, at a very good profit at that price. Mrs. C., did you really mean to call your book *gold*, and Langstroth, Quinby, Cook, and the A B C book, by your humble servant, all of them, *silver?* Now, my friend, just one little plea here for more charity. I know that in large business houses some letters accumulate on account of improper addresses; but it seems to me the number can not be very large; neither can I think bee-men as a class are very hard to get along with. See what our good friend Hayhurst says:

> *Friend Root:*—Please accept thanks for your kind notice of my postal circular. It does not take so very much "grace" to keep bee-keepers satisfied. I find them to be a very reasonable kind of folks. Perhaps I am so fortunate as to have none but the best-natured ones to deal with.
>
> E. M. HAYHURST.
>
> Kansas City, Mo., March 10, 1884.

Mrs. C., do you not see that friend H. has succeeded in pleasing customers, and he does a very large business, to my certain knowledge? How beautiful is his faith in his fellow-men! He *lives* out the sentiment of the little text, "We be brethren." Do you not see? Now, dear friend, for such I wish to call you, you can not think how much pleasure it gave me to see you here among us, and really writing an article for one of the bee-journals. But have you not been a little at fault in getting the ill will of so many of the brethren? I can take a part of this home to myself, for I have enemies and dissatisfied customers; but can we not all do a little more for the sake of peace, and for Christ's sake, if you will excuse me for using the term here?

REVERSIBLE COMBS.

IS IT NOT A BETTER WAY TO REVERSE THE HIVES?

THE articles upon the above subject on page 155 are very interesting. I have headed this article as above, because I wish to treat upon the principles of reversing both brood and surplus combs.

Our old practitioners know how many times beginners are lead astray by the honest efforts of others in putting forward something new. Let us take reversible combs as an example. Of course, some one has met some disadvantages, which have suggested reversible combs as the cure thereof. Mr. Howes and others wish to make their combs stronger; prevent sagging of the top-bars; to get their honey in the sections instead of in the brood-chambers, giving the queen more room, and save necessity of extracting from the brood-combs; to have them more solidly attached for shipping purposes; to have no space between the bottom-bar and comb for the bees to lurk under, when ridding them of bees, etc. I have met all these difficulties face to face. Many of you no doubt will wonder when I tell you that the last difficulty mentioned is to-day to me of more moment than all of the rest. All of the others I have obviated satisfactorily; and now taking all in all, it seems to me that the drawbacks to the reversible-frame method are greater than all of the advantages. Suppose no one had ever thought of reversible frames; suppose all frames in the past had been arranged like Brother Baldridge's and Howes'. Now, would not the first one who thought of cutting the wood top-bar long enough to rest on the rabbets, have made a valuable invention? Looked at in this light we at once discover the inferiority of the reversible frame, except for reversing.

Several have written to me, asking if I can not make my *surplus* case reversible. After studying upon the matter, I can not see how it can be done, without incurring expense, weakness, and complication of management. I have never reversed surplus combs very much; have never given it a fair practical test; but from what I have done, and what I know of the instinctive action of bees, I should expect the following:

1. If we reverse them when so partially developed that there is little or no sealed honey at the top of the sections, there will be danger in warm weather of their falling down, or lopping over sidewise, as Brother Root experienced; but suppose we wait till the case is about two-thirds completed; then if we reverse it, will the bees not do considerable uncapping, tear away some comb already built, and have a regular changing around generally, especially at all times when the honey-flow is not excessive?

Again, can we not better and more cheaply accomplish the object sought in reversing the surplus combs, in another way? The reversing of the brood-combs seems to me much more practical than reversing the surplus receptacles. I think I have a better plan for such reversion than any I have yet seen, which consists in reversing the whole hive at one movement, but a description of which would require too much space for this article. Of course, this method would require movable bottom-boards, which I much object to, greatly preferring the permanent ones. I could not think of using any frame system that necessitated the use of nails and wires, spacers, etc., to hold the frames at certain distances from each other and from the hive. We can not afford to give up the "laterally movable frame."

Let me here assert, that it is wise to keep right in the beaten track, till the experimenters are found adopting their new plans on a large scale.

QUEEN-EXCLUDING HONEY-BOARDS, AND NON-SWARMING ATTACHMENTS.

With the latter I have had much experience; with the former, less. With other fixtures properly arranged, I would not give two cents per hive for a queen-excluding honey-board, in the production of *comb* honey. Why should we, when, during many seasons, we do not have three sections with brood in, in the whole apiary? When producing extracted honey we should like the advantages that would accrue from keeping the queen in the lower story at *all* times. My experiments force me to the conclusion that we shall fail of practical success in the use of spaces too small to admit our smaller queens, if we expect our laden workers to do successful business through them.

In your next issue I will give you a description of a non-swarming attachment that has given satisfaction all around.

I think you misunderstood me regarding my criticism of Bro. Doolittle's method. I simply said I thought him behind the times regarding the advantages derived from the use of fdn., and that his more *ancient* experiments with top storing only were much behind the methods of to-day. I do not believe that Mr. Doolittle, with his methods, will get an ounce more honey than Mr. Shirley, Mr. Hutchinson, or myself, with my style of fixtures, if placed all in the same location. I do not see where we lose any. I was recently honored by a visit from one of America's brightest apiarists, a man of 20 years' experience and close observation—one who knows Michigan and my locality exactly; one who is also perfectly familiar with Mr. Doolittle's resources for honey; one who has kept bees near him, and he says that our opportunities for surplus honey are not to be compared to Brother Doolittle's. Brother D.'s article on page 160 corroborates my visitor's statement in part. James Heddon.

Dowagiac, Mich.

Friend H., you will recollect that I advised, several years ago, reversing the whole hive, or, at least, the brood-apartment. This can very easily be done with a Simplicity hive, and we did do it at the time, and published an account of it some time ago. Just put a strip of wood across the frames at each end, right over where the metal corners come. Brad it to the sides of the hive where the end of the stick strikes, and you are then ready to turn the hive over. If the bottoms and frames are inclined to tip, space them with a strip cut off from the spacing-board, as mentioned elsewhere in this number. There is a little difficulty in getting on an upper story; but where we work for comb honey, we do not want an upper story, unless we use wide frames instead of cases. In that case, a hive will have to be prepared before it is inverted. Surely this is less trouble than reversing the frames one at a time.

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ALSIKE CLOVER; SOME ADDITIONAL INFORMATION.

CAN WE HAVE BOTH CLOVER SEED AND HONEY?

In Gleanings for June, 1883, page 323, you say, in order to get seed from alsike clover, you will have to let it stand until it is pretty much spoiled for hay. Now, what I wish to say is this: A neighbor cut a field of alsike for seed, and stacked it in the field to await thrashing. The young clover came up very fine, and he turned in a flock of sheep. They stayed all winter. The thrasher failed to come, and the sheep ate the stack all up. He fed another lot of sheep on corn, to ship east for mutton, and on examination he found the lot that was wintered on the hay was the fatter, by considerable.

Now, you see that if we bee-men could get the farmers to see this, they would prefer to sow alsike in preference to red clover, as alsike is as good as a fertilizer, as it has several tap roots instead of one, and is harder to freeze out. Jacob Kennedy.

Mont Clair, Ind., March 14, 1883.

Friend K., I am much obliged to you for the facts you furnish. Still I should want to suggest to you that my idea was to the effect that, if we let the clover get sufficiently ripe to thrash out the seed, the straw will be worth comparatively little for hay. I have just talked with Neighbor H. about it, however, and he says his sheep have always done well on the hay left after the seed was thrashed out. Now, in your case you must have given the sheep a good many bushels of alsike-clover seed, worth from $11 to $12 per bushel; while if the seed had been thrashed out they would have had the hay only. It seems to me that sheep *ought* to get fat on such an expensive diet as alsike-clover seed.

BEES AND HENS.

SHALL BEE-KEEPERS HAVE OTHER BUSINESS ON THEIR HANDS?

WE think *good* bee-keepers have got stick-to-it-ive-ness enough to make good poultry-keepers. We find it a very profitable business, in connection with our bee-work; and persons who have got the real hang-on enough to make it profitable to keep bees can make the poultry business very profitable in connection with it; and then if your bees all happen to disappear wintering, you will have a good business left. Seven years ago my brother and I purchased a farm of 180 acres; became interested in bee-keeping from reading GLEANINGS loaned us by a neighbor while teaching district school the winter after. So the 20th of April, the following spring, we paid neighbor Mason $20 for 2 swarms of Italian bees. My wife said, when I got home with my bees, "There, you have lost that money, for I never yet heard of any one making any money keeping bees."

We never have failed to make it a good paying business, though we have met with quite heavy losses in wintering. Three years ago we sent to A. I. Root, and paid $6.00 for an imported queen; received her the 3d day of July; from that time on, during that year, we reared and sold $105 worth of queens; lost our imported queen in wintering; have found it more profitable producing honey than raising queens, and much less work.

The past season was a very good one for bee-keepers in our locality. A year ago last fall we put into winter quarters 31 stocks, as we supposed in good condition. We lost in wintering and by spring dwindling, 15; bought enough to make our fall number good; increased to 50 swarms; took from them 4500 lbs. of the finest of honey, mostly basswood, 2300 lbs. of which we extracted. Our bees gathered honey 23 days from basswood last year; the year before, only 9. Our account with the bees for the past six years shows a balance in favor of credit column of $950, besides the bee fixtures accumulated in the past six years, and the 50 stocks now on hand, two of which are dead.

At the time we began trying to pay for a farm, we had heard people say they had better pay 50 cents a dozen for eggs than try to keep hens; so we kept an accurate record with the 23 hens we then had for one year. They gave us a net profit of a little over $1 per head. We have steadily increased our stock and ability to care for them, and tested the leading varieties, until we now have 350 hens, nearly all of which are pure-bred white Leghorns, and we find we can turn a net profit of $2 per head yearly; the business requires the least attention at the time of year when the bees require the most; and for this reason we think the poultry and bee business work admirably together. In one building we have 150 white Leghorn pullets; and from these pullets, during the three winter months of December, January, and February, we have realized a net profit of $150. These pullets were hatched during the month of May. No smoker is needed in caring for poultry.

Fabius, N. Y., March 6, 1884. KNAPP BROS.

I confess I felt a little sad at the way in which friend Hutchinson spoke of poultry-keeping a little while ago. But then, ours is not a poultry-paper; and besides, is it not the taste of the individual that decides whether it will pay or not? I love the "biddies," and they have always paid a good profit, especially as they utilize the refuse from our barn and warehouse, as well as the scraps and crumbs from the lunch-room.

BEE-NOTES FROM THE BLUE RIDGE.

EXPERIMENTS IN WAX-BUILDING.

MR. E. E. HASTY, in No. 4, February GLEANINGS, gives an experiment in wax-building — a subject which is likely to attract considerable interest and experimenting in the near future by bee-keepers. His manner of testing the matter does not appear to me the best way to obtain practical results. In place of the plan adopted by Mr. Hasty, if a number of our professional bee-keepers will each hive half a dozen or more first swarms on frames filled with foundation, and as many more similar swarms on empty frames with only wax starters on the top-bars, and run these colonies through the season for extracted honey, giving them credit for all they make during the season, including all that is in their brood-chambers when the time arrives for winter preparation, charging the colonies supplied with foundation with its cost, then we would have something definite as to the value of foundation. I am strongly inclined to believe with Doolittle, that foundation may easily become an expensive luxury, at the price it is mounting to. The assertions of some enthusiastic foundation bee-keepers, that foundation is worth one or two hundred per cent its cost, will, I think, prove a snare and a delusion when tested.

SUGGESTION FOR IMPROVING SMOKERS.

In one of Mr. Hasty's translations from Virgil he speaks of the ancients ejecting a spray by holding water in their mouths while blowing smoke from the smudge on the bees. From this hint, could not some of our ingenious smoker manufacturers adjust a spraying device to their smokers, which would spray the bees along with the smoke? It would require but little damp smoke to take the fight out of the crossest hybrids. Nothing will take the *starch* out of a bee so quickly as *water*.

HOW BEES WINTER IN THE BLUE RIDGE.

Bees are wintering well here on their summer stands, without any preparation other than reducing the size of the brood-chamber by a division-board to best suit the size of the colony, and a few folds of cloth over the frames, covered with a newspaper or two to retain warmth. There has not been a longer period than two weeks in which bees did not find suitable weather to fly from their hives. These frequent winter flights may cause the bees to consume a few pounds more honey, but they are kept healthy and hardy by frequent baths in the winter air. Comparatively few die in winter, or are seriously affected by the cool weather of spring, which confronts them everywhere in their first excursions in quest of honey.

MAILING QUEENS IN WINTER.

The two queens you mailed me this winter came through safely, and were introduced on Christmas morning to queenless hives, by putting them in a thimble wire cage, the upper end being closed, and lower filled with Good candy taken from their cages. Two days after, I opened the hives and took out the empty cages. I *trust* they are safe, as I don't approve of overhauling hives in the winter to satisfy curiosity, which is all that can be accomplished in such matters. The bees in one of the cages were all alive, while those in the other were nearly all dead; but the queens in both were alive, and apparently none the worse for their cool jaunt in Uncle Sam's mail-bags. The weather was mild and rainy when I received them.

THE BLUE RIDGE AS A BEE COUNTRY.

While bee-keepers are hunting locations from California to Florida, it is a marvel that they do not come to the Blue Ridge of North Carolina. There are hundreds of "coves" among these mountains, where most profitable bee-ranches could be established. The best locations are indicated by the number of "gums" owned by settlers. For invalids, the higher plateaus of these S. W. Blue-Ridge Mountains, I assert without qualification or fear of successful contradiction, are the most healthful location in the United States, the summers being as cool and refreshing as the lake regions of Minnesota, and winters are mild as middle Virginia, with never a sign of mosquito or trace of malaria. There is no chill in the winter dampness, or *swelter* in the summer heat—*warmth* I should say. Another remarkable feature, these regions are never visited by violent storms or cyclones, such as surge through the lower country, and it is a rare sight to find a tree uprooted by the wind, in the mountains.

The honey-plants are numerous, and native to every season of leaf and flower. Tulip-trees, sourwood, maples, locust, and black gum abound in all the coves, and stud the mountain-sides, while huckleberry and buckberry are everywhere. All of the coves have more or less basswood, while in many this timber abounds. White clover is a native of the country, and asserts its presence in every meadow, pasture, and dooryard. Wherever the land is cleared of timber, goldenrods, asters, and other fall flowers, natives of the Middle and Northern States, spring up. On this plateau, the mercury touched zero several times this winter; but almost every week the bees could fly out. Two miles from here in a cove the bees were carrying in pollen on the 7th of February. In this country, as everywhere else, some seasons afford a light, and others a heavy honey-flow; but an absolute failure is not known. There is always a fair harvest in June and July, generally abundant, and August is the month when the sourwood comes into bloom, which is considered the great honey-tree of this country. The honey is light, and very mild in flavor. The honey I put on the market here last season was pronounced by tourists from the Northern States, the very best-flavored they had ever tried. A large per cent of the honey near old settlements will be from white clover, which generally blooms two to three months here.

Highlands, N. C., March, 1884. E. E. EWING.

PEA-VINE CLOVER AS A HONEY-PLANT AND FERTILIZER.

LIVING in a section of the country where the only surplus comb honey taken is gathered from white and alsike clover, articles like that of Neighbor H. in January GLEANINGS, on pea-vine clover, showing how the honey-harvest may be prolonged by a profitable farm crop, are of great interest to me.

Having frequently read of good yields of honey from mammoth red clover, but knowing many instances where none whatever was obtained, the question naturally arises, whether its flowers are filled with nectar within reach of the honey-bees, only under the most favorable conditions, or whether the large red clovers, variously called mammoth, English, sapling, cow-grass, and pea-vine, belong to one or more varieties. The probability occurs, that pea-vine clover may be a variety distinct and valuable as a honey-plant.

In a paper on "Leguminous Forage Plants," Prof W. J. Beal, after describing common red clover (*Trifolium pratense*), and large red clover (*Trifolium pratense perenne*), says: "Pea-vine clover.—*Trifolium medium* (?) I have received from several sources a clover much like the red clover. It is raised in some parts of Western Michigan and in other Western States. It is known as pea-vine clover. The stalk is stout and zigzag, and the flowers later than those of red clover. Farmers usually pasture it for a while in the spring, and then let it grow for one crop of hay or seed. It seems to be *Trifolium medium*, though I am not fully satisfied in regard to the species. One of my patches has lasted for three years. It is said to be perennial."

Elsewhere he also says: "I have often studied red clover in this country, and can truly say, that in flower and stalk and leaf, this plant varies almost as much as does Indian corn. Some heads are very large, others small. Surely here is a grand chance for some one who has the skill and patience to select and perfect some improved varieties of red clover which shall be an honor to his name."

Who can give us more light on the subject? Whether or not we have a distinct variety that can be depended upon as a honey-plant, pea-vine clover occupies an important place in farm economy, as a fertilizer especially adapted to thin clay soil. For that purpose, and for rotation with wheat, it is much superior to common red clover, but requires to be managed quite differently. The following is an excellent plan:

Seed down the wheat-fields early in the spring, sowing not less than 10 lbs. per acre. After harvest, do not pasture the young clover, unless it should grow very rank, and come out in blossom. The next spring mow it off as Neighbor H. suggests. Then when it is about two feet high, or before it falls down or comes out in blossom, hitch a team to each end of a long heavy pole, as for knocking down corn-stalks, and drag it down flat, going around the field the same way your reaper will follow. The heads will rise and grow upright, and when you come to cut and save the seed you have only a few inches of long stalk to handle. The advantage of rolling or dragging it down is, that you have it all alike and without twists and tangles into which it usually lodges. It should be cut with a self-rake reaper, and small gavels thrown off into winrows. It should lie in the field until it has received two or three rains, as it will hull better, and give more seed, after being well watered, provided it is dry when hulled. The yield is usually 3 or 4 bushels per acre, but varies from 1½ to 9, according to the season. This crop comes off in good time, and leaves a large growth to be plowed under, and the ground in the finest possible condition for seeding to wheat. The following spring, clover may be sown again, and this rotation continued indefinitely, giving a paying crop each year with a small amount of labor, and improving the soil at the same time.

Scientific authorities in agriculture have lately discovered that the clover-plant should attain its full growth and ripen its seed in order to be of its greatest fertilizing value to the soil, so this method is better in every respect than plowing under the first crop of the common red clover when in blossom, and letting the ground lie fallow until sown with wheat in the fall.

On rich clay loam soils, a similar and much more profitable rotation can be made with wheat and alsike clover, which, of all the clovers, is undoubtedly the best honey-producer, and, on suitable soils, the best for any purpose. B.

Neighbor H. adds the following to the above remarks:

I can indorse all that friend B. says, only that for ten years I have never known pea-vine clover to fail to produce a fair crop of honey. I have had good crops sown on oats in May. Drill the oats and throw your clover seed back of the drill-hoes. It gives it a good chance to grow on the ridge between the drills. I consider the hay better than the common red clover. If the land is very poor, sow 12 or 15 lbs. per acre; would prefer to sow the seed in April. In 1882 I raised 33 bushels of wheat on thin clay soil, without any other manure than pea-vine clover plowed under after the seed had been cut off. H. B. H.

ODDS AND ENDS.

THAT BASSWOOD YIELD.

ON page 161 of March GLEANINGS, I see friend Root is not prepared to indorse my statement that Mr. Gallup had a colony of bees which stored on an average 20 lbs. per day for 30 days in succession from basswood, and says that he never knew 30 good honey days in succession. It will be seen, by turning to page 160, that I did not say that Mr. Gallup had 30 good honey days in succession, but, rather, that the average yield was 20 lbs. for 30 days in succession. But I will quote Mr. Gallup's words, from page 164 of *A. B. J.* for 1872. He says: "Our first swarm came out on the 14th of May. We hived it in one of our 32-frame hives, making use of the division-board. As soon as the bees commenced building drone comb we removed the division-board and filled up with worker comb. When the basswood began to bloom we had a bursting swarm in that hive. The last of June we commenced extracting, and extracted from that hive every third day. In 30 days I obtained from the hive 50 gallons of excellent thick honey (a gallon will weigh twelve lbs.). An average of 20 lbs. per day for 30 days in succession is not bad for one swarm of bees." Mr. Gallup then goes on to tell how much he took afterward, and had left in the hive, till the total foots up to 738 lbs. surplus. Right here I wish to say, taking into consideration that this was a new swarm of the same year, and built a part of the comb used for the storing of the honey, that I consider this the largest yield of honey on record, from a single colony of bees. That 600 lbs. of this was from basswood, shows the great value of the basswood as a honey-tree, and that it was over 12 years ago that this yield was obtained, shows that we are not making such rapid strides in bee-keeping as many seem to suppose.

A WORD ABOUT THOSE WIDE FRAMES.

Brother Heddon seems to forget, on page 158, when comparing his plan of working with mine, that each of his extra colonies he puts in his field, in order to secure the honey secretion from a given area with but little manipulation, costs him at least 60 lbs. of honey each year to support. The question which will naturally arise here, is, Which is the cheaper, a little extra manipulation, or the extra colonies and the honey they consume? Suppose that 100 colonies produce an average yield of 50 lbs. each, and by so doing secure all the nectar in a field year by year. This will give us 5000 lbs. of surplus as our share of the field, while each of the 100 colonies will use 60 lbs., or 6000 lbs. as a whole as their share, to get them through the year. Thus we fail to get one-half the honey from our field, by employing to secure what Brother Heddon calls "the greatest amount of income with the least capital and labor." On the other hand, if we employ the economy plan our English friends do, of getting the same amount of produce off one acre of land that we Americans do from three or four, we shall find our statement thus: 11,000 lbs. is the product of one field; 50 colonies are all that are needed with good manipulation to get it. Then 50 colonies must use 3000 lbs. of this as food and fuel, leaving 8000 lbs. for the manipulator. Thus it will be seen, that the manipulator gets 3000 lbs. of honey for his manipulation, and uses no more time than he would use on the 100 without manipulation, so that from the standpoint of overstocking of the Heddons, Grimms, Hetheringtons, and Oatmans, Doolittle's system of management is 3000 lbs. ahead. The same holds good, be the number kept large or small. A man can care for one-half the number of colonies on my plan as easily as he can for double the number on Mr. Heddon's plan, and this same one-half will give the manipulator as good results in dollars and cents as will the whole on H.'s plan, and save the extra honey consumed by the extra one-half of the number of bees as *clear gain* to the bee-keeper. This is not mere fancy, but facts which the success of the two plans proves.

Bro. H. says that no large honey-producer in America is working upon my plan, and says I have fallen behind the times, as if that detracted from it I care not whether I am behind the times or ahead of them, so long as my plans give me a larger yield of honey for the colonies kept and labor performed, year after year, than do the plans of my more advanced (?) brethren.

I could quote the names of several whom I know *are* working similar to myself, but that would not help the plan any. I ask no one to use any of my plans unless he chooses, for the matter of being alone has little weight with me. I simply give the plans I use to accomplish given results, and all are free to use them, or let them alone, as they see fit; neither do I give them because I have a supply business back of them that needs bolstering up, for I manufacture no supplies for sale, but I give them to others as part payment of the debt I owe to those who wrote years ago, and to whose writings I owe my success in bee culture. My plans are often called expensive, and my hive and fixtures complicated; but I believe there is as little labor and cash outlay, by my plan of producing $1000 worth of comb honey, as any plan in existence. As proof I will say, that from less than 50 colonies of bees (spring count) I have cleared over $1000 each year for the last 10 years, on an average, as net profit. I have not hired 10 days' work in that time in the apiary, nor had I any apicultural students to do the work for me, or pay me a tuition to help swell the above income. Besides my labor with the bees, I take care of my garden, and small-fruit business; take care of a sick and helpless father, living 30 rods from me; carry on, with the help of my wife, a subscription business, amounting to several thousand dollars each year; run my own shop and steam-engine, sawing sections, etc., for myself and neighbors; write for five different papers, and answer a host of correspondence. The old saying is, "The proof of the pudding is the eating," and so I now say, as I have said before in these columns, that all I have to recommend the plans I use is the success attained by them.

THAT PAMPHLET.

On page 165 I find these words: "Doolittle sells a little pamphlet telling how his hives are made, and used, for 10 cents, if I am correct." But, friend Root is not correct; and this notice has caused quite a boom to my already *too large* correspondence. The sale of this pamphlet is controlled by T. G. Newman, 925 West Madison street, Chicago, Ill., and the price is 5 cents, instead of 10. Will all reading this please take notice, and thus save me much correspondence?

FUMIGATING COMB HONEY WITH SULPHUR.

On page 166, I am asked if the fumigating of comb honey will make it taste of sulphur. In reply, I will say that, after a week or so has elapsed after the fumigation, I could never detect any taste of sulphur about the honey. If eaten immediately after being so treated, it might taste of the sulphur. The greatest trouble, and the one I cautioned about, was the using of so much that the combs will be given a greenish hue, which will detract much from the sale of the honey. By keeping watch of the flies that collect on the window, and letting the smoke out a moment or two after the last fly expires, the moth larvæ will be killed, and no harm be done to the combs.

AN ITEM IN FAVOR OF FDN. IN SECTIONS.

After repeated examinations I find that comb honey built on foundation rarely needs any fumigation. Why this is, I don't know. I only know that it is so. For the past two years I have not seen a single section so built, that showed any signs of the wax-moth larva, unless such section had once had brood in it, or contained pollen. By keeping these inferior sections (which are always less than two per cent of the crop with me) by themselves, the bulk of the crop need not be fumigated at all. At least, this is my experience for the past two years.

Borodino, N. Y., March 17. G. M. DOOLITTLE.

Friend D., I was afraid, when friend Heddon wrote as he did, that it would stir you up a little, even though you *are* pretty level generally. After reading the above, I have concluded it did not stir you up so as to do you any harm, after all, especially when you swing around on your feet as you do in your last sentence. If I remember correctly, you gave me quite a "sweetener" a few years ago, because I advised not to brimstone the honey till you detected moth worms. And now it transpires that my freedom from the moth worm was because our comb was all built on comb fdn. I confess I do not see what difference that should make, but I am quite willing to let it go without explanation, if they will keep out of our honey.—I confess I was very thoughtless in directing more correspondence to you, and I humbly beg pardon. But it does seem to me as though some sort of a little book, or "big book," would be a pretty good thing for you to have, to answer questions. —In regard to side storing, if I am correct quite a large number of bee-keepers are working in that way, and I should be very glad indeed to hear from the following persons in regard to this matter: T. H. Elwood, Capt. Hetherington, W. E. Clark & Son, and Mrs. Axtell. These all use the Quinby closed-end frame, if I have made no mistake.

* * *

NAILING ONE-PIECE SECTIONS AT THE LAST CORNER, INSTEAD OF DOVETAILING THEM.

SOME SUGGESTIONS FROM OUR FRIEND BYRON WALKER IN REGARD TO THE MATTER.

WITH us, having a section fail to bend right is of such rare occurrence as to be hardly worth mentioning. The only reason that occurs to us as a cause of partial failure with you is, that you have to make your corner so nearly square cut, in order to avoid binding at the corners when folded; as this, of course, has a tendency to throw the section out of square—a tendency which dovetailing the ends fails to correct, according to our observation. We prefer joining the extremities with wire nails, especially where one is slightly rabbeted, so as to fit the other (as ours are at present), as we do not wish to avoid this binding at the corners, as it adds greatly to the stiffness of the section; and when properly put together (see directions for this in our circular for 1884, a copy of which we send you), they are as square as could be desired.

You have intimated that there had been some complaint about my sections, on account of their having to be nailed. The only cases that we remember of, were those of M. H. Hunt, of Bell Branch, Mich., and Mr. Gray, of Reese, Mich. The former, I believe, had never used the right size of nails to make a real success of it; yet, notwithstanding this, has, after having once tried them, repeatedly sent us large orders for sections. The latter man *tried* our section, but imagined he would have trouble, as he is getting to be quite an old man, with failing eyesight and unsteady hand. However, he told us at our convention the other day, when we met him for the first time, that he thought he would have done about as well with the nailed sections, as he had to glue yours before he could keep them in shape. We can put ours together at the rate of about 200 an hour, and never think of asking ourselves whether they are bending right or not. We think the great mistake made by those who have had trouble with nailing is, that they do not use the right size of wire nails—No. 19 wire, ¾ inch long. B. WALKER & Co.

Capac, Mich., March 10, 1884.

I know there is an advantage in having the sections nailed, friend W.; but why not have them nailed and dovetailed both? that is, why not fold them up with the dovetail, and then nail them afterward, to make them stiff and square? We have tried nailing them, but have never been able to come anywhere near 200 an hour, although we can put up 500 an hour, as we make them. I suppose with this, as with many other matters, there will be differences of opinion; and as our machinery is all rigged for making sections dovetailed, perhaps the friends who prefer them made on friend W.'s plan had better order of him. At the present demand for sections, there is not much need of any great anxiety as to who shall get the orders. As they are heavy goods to ship, we hope arrangements are being made for having them manufactured all over the land.

Heads of Grain,

From Different Fields.

FRIEND KENNEDY'S ASSISTANT; WIRING FRAMES.

FRIEND ROOT:—As you do not know exactly who I am, or just where to place me, I guess I shall have to inform you. I am not a juvenile, neither am I friend Kennedy's "helpmeet." I am his oldest daughter.

Why, Mr. Root, the bees do not go on the *outside* of our section boxes. The sections are placed in the wide frames, and you know the bees can not get on the outside of them then. It is the *edges* of the sections that get soiled, and they look so much better, and are so much nicer to handle after they are cleaned off, that we think it pays to clean them. By the way, our 58 colonies of bees are all alive yet. They all had a good fly Jan. 30.

I should like to ask a question. In your directions how to put the wire in the frames, you say, "Double the wire in the middle, and commence from the bottom of the folded tin bar," etc. Now, what I want to know is, what holds the wire at the center? I should think that you mean, place it *under* the bar, if you did not say, "Spring in the bar," the last thing. If the bar is to hold the middle of the wire in place, it would have to be placed in the frame about the first thing—before you commence putting in the wire. Besides, I should think that was a flimsy way; for if your tin bar should happen to get broken, away goes your wire. LOUISA C. KENNEDY.

Farmingdale, Ill., Feb. 6, 1884.

My friend, I was a little hasty in my directions for wiring frames, perhaps. We first wind our wire on a long strip, perhaps four feet long. Each end of the board is made sharp, like a wedge, and then covered with tin. The coil of wire is placed on a small pair of swifts, as it were, and from that wound around this board until we have quite a quantity. It is then cut at one end with a knife. This leaves it in pieces just the right length to wire the frame, each piece being doubled in the middle. The folded end is put through the hole in the center of the bottom-bar, and then a small tin tack pushed in, over which this loop slips; and then the frame is wired as per directions in the price list. As we are now selling this tinned wire in such quantities that we have to buy it by the ton every little while, it must be that bee-keepers are pretty generally using wired frames.

EXCESSIVE SWARMING, ETC.

Having been engaged, on a small scale, in bee culture, and having had some difficulty in swarming time, I have concluded to state the case to you, in order to find a remedy, should there be one, and also to inquire after the causes of such behavior on the part of my swarms. My bees did not commence to swarm until the 31st of May, and the first swarm did all right, but after that almost every swarm endeavored to run away. When I found out their little game, I began to clip the wings of the queens, and thus hindered the absconding of my swarms. But the most strange part of their behavior was the pertinacity with which they kept up their endeavors to escape. I hived two swarms on the 2d of June, and they remained in the hive apparently satisfied until the 8th, and then when their hives were nearly filled with comb, brood, and honey, they came out and endeavored to abscond; but, as they were unable to get away, they of course came back; but one of them came out several times. When my second swarm began to come out, I was compelled to kill the unfertilized queens, and then furnish them (the swarm) with brood to raise queens, in order to save my swarms. I think that I had but two swarms during the season that did not endeavor to abscond, and some of them 3 times; had 3 swarms at one time on the wing trying to escape, with those two exceptions. Whenever I neglected to clip or kill the outcoming queen, I lost my swarms. My hives were the American, new and clean. Now, what was the cause of such abnormal behavior, and how could it be remedied? My bees did very well considering the shortness of the honey season here. I wintered 14 stands; took about 600 lbs. of honey, saved 16 swarms, and lost about 6. My stands are all living at this date, some of them somewhat light; but I have some sections partly filled with honey which I will give them as soon as the weather moderates. My hives all have chaff cushions over the frames, and so far I have not lost many bees. They are standing outdoors without any protection whatever. Which pay the best, so far as honey is concerned, the 1 or 2 lb. sections? DR. J. WESENBERG.

Moore's Vineyard, Ind., Jan. 26, 1884.

Friend B., your bees had what we call the swarming mania, and it is one of the vexed questions as to how to control it. I should divide them until they were so weak they could not swarm. But of course they could not then get a crop of honey. I do not know whether it is a mania that may get hold of any apiary, or whether it is something in the strain of bees you have. It is well known, that many queens are very much given to leading out swarms, and it usually follows that swarms inherit the same disposition. In such a case, the remedy would be to get another strain of queens. Doolittle has written on the subject, as has also friend Hasty, and a good many others of our veteran bee-keepers. I believe none of them can control this disposition when it gets well under way, or, at least, without much trouble. Hasty buries them in the ground until they get cooled off and come to their senses; but we should think that a good deal of trouble. The size of sections is a matter of opinion and locality.

ALSIKE CLOVER SEED.

The following, in regard to alsike clover seed, we clip from the *American Grocer;* and if I am correct, alsike deserves all the praise there given it. The cultivation of alsike, and the planting of basswood forests, will do more to increase the honey business than almost any thing else.

> Alsike clover seed is each year becoming more in demand by the farmers of this country and Europe. Its value as a hardy variety of clover, both for hay and pasture, is being more fully established. In our issue of the 10th of May last, referring to this article, we said that after a few years' trial, alsike clover seed became very popular with the large grazers, who laid down their farms for permanent pasture. Year after year the value of this clover is becoming more generally admitted. It appears to flourish in all soils and in every climate, and at present stands high in the esteem of large and small farmers alike.
>
> The hardy nature of the plant is proven by the fact of its thriving by transplanting, which no other

grass will do. A single plant may be divided into several parts, and each part will produce a luxuriant plant; so that farmers need not have a bare patch on their fields.

For several years past, alsike clover seed has been imported from the United Kingdom and the continent of Europe, and year after year the quantity imported increased, in proportion to the estimate put on it by our farmers; but last year and this the tide has changed its course. We are now exporting to Europe, at prices ranging from 16c. to 19c. per pound, *all that farmers are willing to dispose of.* Farmers will do well to note the above fact. The seed is much easier saved than red clover, and this export demand is likely to continue for many years to come.

THOMAS M'ELROY.

MAMMOTH CLOVER.

Friend Chapman, p. 97, Feb. GLEANINGS, is interested in mammoth red clover, as he says bee-keepers should be greatly interested in this, as it is an excellent crop, as it furnishes an abundance of seed as well as honey. Our crop of honey, though small, was entirely from this. A near neighbor of ours had this season over 30 acres, which yielded 7 bushels per acre. If any of the friends want some for seed, we can get it for them, and no charge will be made, only for sacks, and just what we have to pay for it, and we will make no charge for our trouble. We do this to introduce it to bee-keepers; that is, we mean in small quantities. We can get it at present for about $7.00 per bushel. J. A. OSBUN & SON.

Spring Bluff, Wis., Feb. 5, 1884.

HONEY-DEW FROM HOUSE-PLANTS.

I have quite a large English ivy in the house, and this winter it is infested with the bark louse, called scale. I found my fern-case, which stood under the vine, covered with small spots of something sticky; and on investigating I found quite large spots of a thick sticky substance on some of the leaves. It tastes sweet on touching my tongue to it. I think it must be a species of honey-dew. Is the scale an aphis? and might not some cases of honey-dew where no aphides are discovered, be caused by the scale, which is not so easily seen?

MRS. P. P. COBB.

Middleville, Mich., Feb. 16, 1884.

MIGNONNETTE IN TEXAS, ETC.

November 23d, 1882, I bought me two colonies of Italian bees, and brought them home. I paid $20 for them. My neighbors made fun of me; but I told them to never mind; they would be buying bees from me, and paying me $10 per colony, and, sure enough, now I have calls for more bees than I can sell. The smoker I bought of you is the first one that has ever been in these parts; and the mignonnette that I got from you is the first that has ever been planted in this county. It grows finely. On the 25th of December I took all of my friends and went out and showed it to them, and it was as pretty a sight, I think, as I ever saw in my life. Now you just imagine it all in bloom, and the bees so thick sucking honey that you could hardly walk through it. People wouldn't believe that bees could gather honey on Christmas day. JOHN T. LAKE.

Troy, Texas, Feb. 22, 1884.

FROM 26 TO 80, AND 2000 LBS. OF HONEY.

I set my bees out of the cellar, April 18, which was two weeks too early for this section last year; lost two in wintering, and two by spring dwindling; united one, and commenced business with 26, being in strength from light to heavy; increased to 80, and took 2000 lbs. surplus. My best swarm gave 56 lbs. in 1-lb. sections, and 100 lbs. extracted, and a large swarm that gave 56 lbs. in sections, making 212 lbs. and a good swarm, spring count. I have Italianized 47 of them besides, by transposing larvæ, as directed in A B C; 40 of them are purely mated. I increased one swarm to 10 for an experiment, and it was a success. I make all my hives, frames, and foundation, and do all my work without help; how is that for a two-year-old A B C scholar? Please tell us how far to set our bees from the road and line fences. There is some controversy here about it.

WM. H. SMITH.

Caroline Depot, N. Y., Jan. 28, 1884.

Friend S., it does not seem to me we can very well lay down any rules for the distance that bees should be from the road or line fences. If the line fence were of tight boards, and pretty high, I should think the bees might be close up, or if evergreens or thick shrubbery intervenes; also the kind of neighbors you have might make a difference. If they object to having bees near them, I think I should take them quite a way off. "If meat maketh my brother to offend," etc.

MILK AND EGGS AND HONEY.

Friend Root: — Many, very many thanks for a stopping-place to "Who Shall Keep Bees?" I thought if friend Hutchinson kept on, there would be nothing left for us farmers. He denied us the right (or, at least, the intelligence) necessary to handle foundation, wired frames, and extractors, and to raise our own honey. There was such a dark side to poultry-raising that it would not pay. I expected the next thing would be to take away our Alderney cows, deprive us of milk, eggs, and honey, and what is on the farm worth living for. My father is in his eighty-fifth year; and for more than 30 years we have kept bees, and always had some honey. For the past two years we have had a scientific bee-keeper to farm them; and although we have not as yet opened up a bank account, they have paid about as well as any other "stock" on the farm.

BELL L. DUNCAN.

Black Lick, Pa., Feb. 25, 1884.

ALSIKE CLOVER.

Some of my neighbors have started the alsike clover pretty well, and like it. Now they want to know if the seed is worth as much, or more, in common market, as our red clover, or nearly as much. Next season I will have about 23 acres within reach of my bees; and if the people can sell their seed for nearly as much as the red clover, I will have not less than 100 acres in reach of my bees in 2 years. That would be a nice thing for me. J. C. MISHLER.

Ligonier, Noble Co., Ind., Feb. 2, 1884.

Why, friend M., I should think our price list, and what has recently been said in GLEANINGS about alsike-clover seed, ought to answer your question. The seed brings nearly twice as much as the common red clover, and the demand is always beyond the supply.

BASSWOOD SEEDLINGS.

I would like to say, through GLEANINGS, that I have no basswood-trees for sale, either "big, little, or tiny." Basswood seedlings at the Bloomington wholesale nursery are worth $25 00 per 1000, and scarce at that price. I sold them at $10 00 by mail.

Rantoul, Ill., Feb. 7, 1884. H. M. MORRIS.

I presume our friends will get plenty of basswood-trees of those who advertise in our pages, and at prices, too, less than you mention, friend M. There is a point that comes in here, however: Will basswood-trees raised in a nursery make better growth than those brought from the forest? I presume they would be stronger and thriftier, for the forest trees are so often knotty and twisted. But the question is, Which will make the better trees for timber and for honey?

THE BEST METHOD OF PRODUCING COMB HONEY.

[See page 96, Feb. 1.]

You state, "Hiving the next swarm in hive No. 1," and so on, giving the best results. Pray tell which is hive No. 1 or 2. Please make your explanation plain, and consider I am young in the business. Again, about how many colonies of bees should a person have before it would pay to buy an extractor? Again, would you recommend putting a frame of sections in the brood-chamber of a Langstroth hive?

Cleveland, Ia., Feb. 28, 1884. EVAN B. MORGAN.

Friend M., hive No. 1 is the first new swarm. The idea is, that we can not put a swarm right back into the hive it came from, for they would not stay. But you can put a new swarm into a hive that had swarmed a few days before that, by giving them more room by putting on sections, etc. The advantage will be, that they will have the extra vim of a new swarm, and a great lot of brood hatching out to reinforce it right along. The only difficulty will be to keep this powerful colony from swarming again very soon.—I suppose many will think it will pay to buy an extractor as soon as they have five colonies of bees or more; and circumstances might make it profitable to buy an extractor for even one colony, if I am correct.—If you will look at our price list you will notice that we put two frames of sections in the brood-chamber of our hives when arranged for comb honey.

ASSISTING THE MISSION WORK IN INDIAN TERRITORY.

I have received a donation of 13 empty hives for missionary purposes. Bees are to follow in 3 or 4 weeks. This princely gift is from Mrs. Axtell, of Roseville, Ill. Will you please acknowledge in your journal? We are building cheap houses for churches and schools for the Indians, which are as much needed as missionaries among foreign fields.

Caddo, Ind. Ter., March 4, 1884. S. R. KEAM.

Friend Keam, we are interested in the above, because we know Mrs. Axtell, the donor, so well. Wouldn't that be a grand way to civilize and educate the Indians—teach them bee culture? It would be sufficiently outdoor work to harmonize with their natural tendencies; and who knows but that they may excel in this industry? We have made a proposition to assist friend K. in the way of supplies and implements; and if any of the rest of the friends feel like giving them a lift, I presume it will be thankfully received.

REVERSIBLE FRAMES.

While the bee-keepers are turning their attention to the reversible frame, they are running into serious trouble, unless great efforts are made right at the beginning to prevent it. Much has been said and done to get a universal frame. The writer, for one, has adopted a frame that he does not like, because it was the one nearest universal. Now, if a thousand and one devices are brought out to make that frame reversible, and no two devices will be interchangeable—that is, to work in one hive with another—it will be like the confounding of the languages. Now I will make this suggestion at the start: That all bee-keepers be urged not to adopt any of them at present; and at the next national convention, let a committee of several of the leading bee-men be appointed to test all of the devices that may be presented, and report at the next following meeting the most practicable one, then all of us fall into line and adopt that one, if any.

A. A. FRADENBURG.

Port Washington, Ohio, March 10, 1884.

Your suggestion is a good one, friend F. No frame ought to be adopted universally that will not readily work in the hives we already have in use. Perhaps the whole matter may turn out like the half-pound sections—beginning and ending mostly with discussion.

WIRED FRAMES FOR NATURAL COMBS.

I commenced the year with 7 good colonies; increased to 18 by natural swarming, and took only 485 lbs. of comb honey. Did you ever give new swarms simply wired frames to commence with? My little brother by mistake hived a large swarm in a hive that had the frames all wired, but no fdn. in. Seeing they went right to work I let them keep them, and the result was 12 splendid wired natural combs. I shall try again this summer.

OTTO G. JOSENHANS.

Owosso, Mich., Feb. 22, 1884.

Thank you, friend J. I believe natural combs are not always built as nicely over the wires as those were; still, it is a very valuable suggestion. I for one never want to handle any more frames of comb of any kind, without wires in to keep them from breaking down or sagging.

REMOVING WARTS FROM STOCK.

As you have been buying recipes to get something valuable for GLEANINGS, I will write one. I had a two-year-old colt with a rose-wart, or blood-wart, on the hind leg. It was two inches long, and as big as a half-dollar. It was there two years before I could get it cured. I burned it out with a hot iron, but in a short time it grew out again; then I got this recipe: Quicksilver and iodine, each 2 oz., rubbed together; then corrosive sublimate 2 oz., rubbed with the others, then mixed with 2 oz. of lard. Cut the wart off close to the leg, and apply the salve to the wart every other day until it has healed up, which will be in about two weeks. This will kill all kinds of warts on all kinds of living stock. V. MCBRIDE.

Chardon, O., March 8, 1884.

I should think your prescription *ought* to take the warts off, friend M., and very likely it is valuable. Now, what would you think of a man who knew this, and would not tell it to a neighbor without pay? Perhaps this does not come under bee culture; but it illustrates a great truth.

BLOOD-ROOT AS A HONEY-PLANT.

Did you ever notice how bees in the early spring work on the blossoms of blood-root? Some years ago I set some plants in my dooryard under some evergreen-trees; and by keeping the weeds out, it has become a perfect bed. As long as it continues in bloom, the bees work on it all day. As to the amount of honey they get, I am unable to say. For two or three years I have noticed that it is spreading by the seed as well as the roots, little tiny plants appearing at some distance from the place where planted; and last season I gathered some of the seed and planted it. If it germinates I shall try it again this year. It blooms early in the season, and is, as I think, a very pretty plant. D. NORTON.

Galva, Ill., Feb. 27, 1884.

A PROFITABLE SPECULATION.

Herewith find slip taken from Cincinnati *Stock Review* of March 7, 1884. I have been troubled with a sore throat lately, and could not swallow that article yet. ED. BAGGALEY.

Weston, Ohio, March 10, 1884.

AMERICAN BEES FOR FRANCE.

"Speaking of how the Americans are becoming exporters instead of importers," recently observed a New-York party, "recalls an incident in my experience. Some time ago I found a shoemaker in ill health struggling along in Boston. He knew something about bees. I had a piece of land in San Bernardino Co., California, which I offered to sell him, and gave him some help to get out there with his family. He prospered in bee culture, and when we were in California the last time, I went and saw him. We were about going to Europe then, and he asked me to take over an American queen. He was confident that the American queen-bee possessed more vigor than the Italian. I consented, and he improvised a box for it by boring in a piece of wood, put in some honey, some wax, and some of the flowers of Southern California, and gave it to me. Two months later I was repacking our trunks in Boston, when I came across my California bee. I said to Miss Morris, 'Well, I guess the queen is dead. I had forgotten all about her.' A tap on the box showed, however, that the queen was alive, and when I arrived in Paris I presented her to the American Consul, according to instruction, and he sent the bee, as desired, to the Department of Agriculture. Upon returning from Switzerland, the Consul said that he had a letter of commendation for me to bear to my California friend, from the Department of Agriculture. The American's claim proved true. It was satisfactorily demonstrated to the Department, that while the Italian queens produced but 40 per cent of working bees, the American queens produced 64 per cent. My California man is sending all the bees he can spare to France now, in little packages by mail that cost him 2 cts. to post, and is getting $6.00 apiece for every one of them."

Friend B., it occurs to me my throat is sore too, since reading the slip you send.

SEPARATORS ARE ECONOMICAL.

There is one point I want to mention in regard to using separators. Last spring we bought 12 lbs. of fdn. for sections at one time; at another time we got 10 or 12 lbs., only a part of which we used. I think I would be safe in saying we used 15 lbs., which, at 60c per lb., would cost $9.00. Had we used starters full size, it would have cost us three times as much, or $27.00 for fdn.; hence we saved $18.00 in cost of fdn. All the separators we have cost us less than $14.00, leaving a net profit of $4.00 the first year, $18.00 for the second, and $184.00 for eleven years, and *all* combs straight.

WHO MAY KEEP BEES?

He who has lived half of his threescore and ten years, and made a success of all his undertakings can safely undertake to keep bees for profit; but he who drags along just a little behind his neighbors in nearly every thing must expect failure, if he undertakes the care of bees. A friend asked me what was the most important to succeed in bee culture. I answered, "Eternal vigilance." Perhaps that was putting it a little strong. Among those near here who kept bees for from 3 to 6 years, one has none, one has one colony, 3 have some bees, but have made no clear money. There are many starting in who succeed to some extent in raising honey, to whom selling it is a "bug-bear." Ten cents will buy their comb honey when it is worth 16 cents on the market, wholesale; while the bee-keeper who has worked hard and conscientiously for the trade steps out of the home trade until they have sold all theirs, and the grocer orders his at 16 cents. I would suggest, that each bee-keeper ship an occasional case or two of honey to the nearest city market, and let the net price obtained guide him in the price he asks in the home market.

ARE BEE-STINGS DELETERIOUS?

We want more light on the effect of bee stings, or poison, on the human system. Does it not cost lame elbows, partial paralysis of the arms and shoulders?

MOTHS.

The moths seem to bother, some of the friends. Our experience is, if all colonies are kept strong, and all waste comb put in a tight box, every thing kept neat and clean, moths will do *no* harm. We put our honey in a tight cupboard, and in shipping-cases, and have no trouble. J. SYKES WILSON.

Penrose, Ill., March 4, 1884.

Friend W., if you will excuse me, I am afraid your reasoning is a little faulty. If you used large-sized sheets of fdn. in the sections simply to get the combs straight, your reasoning would be all right; for separators are used for getting straight combs, and nothing else. But if the bees fill the sections with honey in much less time from having fdn. than they would if they had to manufacture the wax and build all the comb, this puts a different phase on the matter. If I am correct, the fact that full sheets of fdn. give straight combs without separators, was only one of the reasons for using fdn., and a minor reason at that. — I do not think that lame elbows, arms, and shoulders, are often caused by bee-stings, if ever. Mr. Langstroth got an idea at one time that the poison of the bee-stings was injurious to him; but he has written me since, saying he thought it was a mistaken idea that he had got. If you will make a little inquiry, you will find there are by far more people suffering from a sort of partial paralysis, who have never been near bees, than there are among bee-keepers.—I agree with you in regard to moths.

BEE-KEEPERS' TELEPHONES.

The telephone I got of you in the fall works nicely, when we can keep it together. I have the posts 100 yards apart. When we get a heavy wind it breaks; also when we stretch it a little too tight for 450 yards. I have a neighbor who has iron wire, two sizes heavier than broom wire; it reaches ¼ mile, and works well. Some say it rusts. He has had it up two years, and it is now apparently as good as ever.

Millersburg, O., March 10, 1884. C. F. UHL.

I believe the annealed brass wire we furnish has generally been considered more sensitive, friend U., although iron wire will answer. As it has to be out in the weather, it should be coated or galvanized, or it soon rusts. The shellac-coated *steel* wire which we advertise on the 10-cent counter might do very well. The greatest objection I have heard to it is, that it is too stiff to be drawn up tight enough. Perhaps others can tell us in regard to this matter. The manufacturers of the Bliss telephones which we sell, seem to think the composition wire put up with the instruments is the best; and as we generally sell them to tell when the bees are swarming, this light wire would probably be more sensitive to the bumps they give it.

Reports Encouraging.

SOME ENCOURAGING WORDS FROM FRIEND MARVIN.

IT has been the best year for selling honey, since I have been in the city. This is the first year of clearing out the entire stock in 7 years that I have been over-stocked; one of the seasons, an entire failure, the only one in thirty-three years. I can sell 20 to 30 bbls. of extracted and 3 to 6 tons of comb honey more readily than I did at the commencement with 300 to 600 lbs. **J. M. MARVIN.**

St. Charles, Ill., March 3, 1884.

FROM 4 TO 18, AND 400 LBS. OF HONEY.

In the spring of 1883 I started with 4 colonies — one queenless, and increased to 18, mostly by artificial swarming. I got 400 lbs. comb honey — no big money, but still I am not willing to be classed with the "Blasted Hopes" party. **P. C. VANDOREN.**

Curran, Ill., Feb. 21, 1884.

HONEY REPORT, 1883.

Commenced last spring with 48 swarms; went into winter quarters with 88; worked for comb honey; got 4000 lbs.; sold from 12 to 15c per pound; very poor season for honey, after white clover got through blooming. **S. PARDEE.**

Volga, Iowa, Jan. 14, 1884.

$140 FROM 9 SWARMS, AND 5 SWARMS INCREASE.

With your permission I will tell you what I have sold from 9 swarms of bees, spring count, for 1883. Sold $95 worth of bees, and $45 worth of honey, and I have 14 good swarms now. This I claim to be clear gain for me, as I can not work. The five swarms will pay for the hives, so you see I make more money from nine swarms of bees than any man makes from 9 of the best cows, taking out the expense of the cows. I have not said any thing about the honey we have used at home.

Sherburne, N. Y., Feb. 8, '84. **A. W. DENISON.**

MAKING A SUCCESSFUL START WITH 50 COLONIES.

I began bee-keeping last spring; procured fifty colonies, partly in boxes and old gums; procured two months' practical help of one person. I took 5100 lbs. extracted honey; no comb; increased to 110 colonies; have all in good hives, and have all but 10 swarms in cellar, well ventilated. So far all seem to be doing well. **W. H. MINNICK.**

Oskaloosa, Iowa, Jan. 31, 1884.

Friend M., you are almost the only man I ever heard of who commenced with so large a number, and succeeded. But I presume the whole secret of it was, that you hired a practical man to work with you, and show you how. There is a pretty good moral right here.

FROM 13 TO 38, AND ABOUT HALF A TON OF HONEY.

For the past few years I have been experimenting with bees under the new mode of culture, and have found that bee-keeping is a paying business, if we have plenty of knowledge of the little creatures. All the knowledge I have has been gained from the A B C and actual experience. This last year was my first experience in extracting. From 13 colonies I extracted between 500 and 600 lbs. I also raised, from the same colonies, between 400 and 500 lbs. nice section honey. I put up for winter, 38 strong colonies. How is that for an A B C scholar? I have never used double-story hives, because my knowledge and finances were limited. I extracted from the body below, I knew it was not the right way, but they were all strong, and I took only a little from each hive. I live in a good locality, if I am a judge. I am surrounded by timber on all sides, consisting of nearly all kinds, including plenty of basswood and willow. Of the amount of honey I raised, I had some over 200 lbs. of basswood. I intend, another season, to run principally to extracting. I keep Italians and hybrids. **R. H. LAWRENCE.**

Clarendon, Mich., Feb. 14, 1884.

FROM 8 TO 15, AND $55 00 WORTH OF HONEY.

I will give my report for 1883. The season was not very good here, being cold and wet much of the time. Most of the bee-keepers got no surplus at all. I had 8 swarms, spring count; increased to 15, and one went to the woods; sold about $55 00 worth of honey, getting 20 cts. for comb and 15 for extracted. My first new swarm gave me 68 lbs. comb honey; 2d swarm, from same hive, gave 25 lbs. My weakest swarm in spring gave 90 lbs. of extracted. One swarm, with as good treatment as the best, gave none. I began keeping bees in 1879, and have never lost one in winter. **GEO. P. HOWARD.**

Marion, N. Y., Feb. 11, 1884.

44 LBS. OF HONEY FROM A SINGLE COLONY, IN A SINGLE DAY.

My little boy, Bennie, 9 years old, who died on the 4th of this month, and myself, had quite a prosperous year with our bees. Started with 15 colonies; increased to 38; got 3000 lbs. of surplus honey—1000 lbs. of comb, in section boxes, and 2000 lbs. of extracted — an average of about 200 lbs. to the colony, all white-clover honey, and nearly all the surplus honey was made by the new swarms. One colony of Italians made, or, rather, filled, 260 1-lb. section boxes, and had abundant stores for the winter. The same colony gathered 44 lbs. of honey in one day, when put on empty combs, as Brother Hall, who was to see you last fall, can testify. That amount includes what they took with them when they swarmed, and many others did nearly as well. We had no honey but white-clover; saved plenty for the family and bees; sold the rest—comb, 20 cts.; extracted, 15. When I left home, Nov. 1, many of my chaff hives were crammed full from bottom to top, 24 frames. I worked, watched, and waited three years for a big flow of honey, and was at last paid for all my trouble and expense, with good interest, and an abundance of good feelings. Bees have gathered honey and pollen every day this winter here, with the exception of about seven, and will be ready to swarm about the last of this month, or as soon as the orange blooms. The honey is not so good here as the white-clover honey of the North.

J. F. MILLER.

Orlando, Orange Co., Fla., Feb. 7, 1884.

Friend M., we do not doubt your word in the least; but I can not help wondering if you have not made some mistake somewhere. You allude to the honey they took with them when they swarmed. Will you please give us the full particulars, and tell us how you weighed the colony, and how weighing the honey was done? If I am correct, this is ahead of any thing on record; yet I suppose it is possible, with an extremely powerful colony and a great flow of honey. May God help you in your affliction for the loss of your little Bennie.

Notes and Queries.

REMOVING BEES TO BASSWOOD FORESTS; THE PROJECT LIKELY TO BEAR FRUIT.

As queries keep coming in regarding the basswood locality I spoke of, will you please say that friends Flanagan & Illinski expect to move 100 or 200 colonies direct from New Orleans, and occupy the field the coming season? And won't it be better to wait and see the result before more coming? I feel much interested in the enterprise, and wish them abundant success.

Fremont, Mich., Feb. 16, 1884. **GEO. E. HILTON.**

HONEY FROM HEART'S-EASE, NOT CANDYING.

You ask if any one has any honey from heart's-ease, that doesn't candy. I have some that was made last season that has never candied, and I don't think it will. It is very stiff and thick. Bees are all alive, and in good condition to date. **J. W. DUCK.**

Linden, Iowa, Feb. 11, 1884.

SAD NEWS FROM FATHER LANGSTROTH.

I write at the request of my father, to let you know of the return of his old malady. He is at present more affected by it than for some time past, and utterly unable to attend to any correspondence.

Oxford, O., Feb. 6, 1884. **A. L. CORVAN.**

[The above should have appeared some time ago, but it was overlooked. When I talked with friend L. in Toronto, he seemed hopeful that he would escape a return of his old malady.]

ANOTHER STRAW IN FAVOR OF ABUNDANT VENTILATION.

A neighbor captured and hived a wild swarm of black bees, Aug. 19; hived them in a half salt-barrel; set them up one foot high, with a crack in bottom-board; fall rains loosened a quarter of the combs; partially sheltered from winds; no other protection. Feb. 2d he found about a pint of dead bees. Mine brought out about the same quantity from chaff hives in two warm days. **W. YOUNG.**

Palmyra, Neb., Feb., 1884.

OLD COMBS NOT NECESSARILY A DISADVANTAGE.

G. H. Kaufhold, a resident of Winfield township, Butler Co., Pa., is the owner of a colony of bees in a box hive that have lived in it 49 years; no old combs have been cut out of it in those years; has stood the storms of all those winters, without any protection: they are black bees, and are not gray-headed either. Does this not speak in favor of a hardy strain of bees? If any other bee-keeper knows of any older colony, I should like to hear from him.

JOHN A. PUGH.

Hannahstown, Pa., Feb. 14, 1884.

THROWING HOT WAX INTO VERY COLD WATER; A CAUTION.

I have had a curious experience with beeswax. I had a lot of comb; reduced it to wax; skimmed it off, and threw it into cold water. It combined mechanically with the water, and that so completely that it looked much like good wax. I tried to get it clear of water by keeping it melted on water, but no go; then I put it into a shallow boiler and boiled the water out, and it took a heat that rose gradually to 350° before it expelled all the water. Result, dark hard wax. **H. SMITH.**

New Hamburg, Ont., Can., Feb. 22, 1884.

CONVENTION NOTICES.

The Western Michigan bee-keepers will hold their spring meeting at Berlin, Mich., April 24, 1884.

F. S. COVEY, Secretary.

The State Central Bee-keepers' Association will meet at the court-house in Waco, Texas, April 12, at 2 o'clock P. M. **JUDGE E. P. MASSEY**, Pres.

J. W. GUYTON, Secretary.

The Northern Ohio Bee-Keepers' Association will hold its annual meeting in the city Council Chamber, at Norwalk, O., April 24, 1884, commencing at 10 o'clock A.M. A full attendance is requested.

S. F. NEWMAN, Sec.

The bee-keepers of Tuscarawas county, Ohio, will meet in the town hall at Port Washington, Ohio, on Thursday, May 15, 1884, to organize a bee-keepers' association. All are earnestly invited to attend who will. **A. A. FRADENBURG.**

CIRCULARS RECEIVED.

W. J. Endly & Co., Edgerton, Kan., send out a postal price list of queens, etc.

D. A. Pike, Smithsburg, Md., sends us a 4-page list of Albino and Italian queens.

Derr & Kreider, Sterling, Ill., issue a 4-page list of hives, sections, etc.

G. K. Hubbard, La Grange, Ind., is out with his spring circular of the "Hubbard hive."

W. W. Bliss sends us a 4-page list of fdn., bees, etc. It is printed with a cheirograph. Duarte, Cal.

Dr. A. P. Coulter, Marissa, Ill., sends us a 4-page list of Italian bees, etc.

C. C. Vaughn, Columbia, Tenn., sends out an 8-page circular, queens and bees only.

Reynolds Bros., Williamsburg, Ind., send out a 10-page circular of supplies in general.

W. J. Ellison, Stateburg, Sumter Co., S. C., sends us a one-page circular of bees and queens.

From Nims & Voorhees, Burlington, Wis., we have received a 4-page list of section cases, crates, etc.

J. H. Woodworth & Co., West Williamsfield, Ohio, send us a very pretty 4-page list of bee-keepers' supplies.

Grainger & Duke, Toronto, Can., send out a 4 page circular of Simplicity hives and appurtenances generally.

James O. Facey, New Waterloo, Ontario, sends us a 4-page circular in regard to bees and queens, hammers, and wire nails.

Thomas B. Blow, Welwyn, Herts, England, sends us a 48-page catalogue, profusely illustrated with cuts of honey implements and devices; containing, also, quite a pretty view of his apiary, with a picture of his hive factory on the back cover. The catalogue is quite instructive, even if one should not care to send him an order.

D. Kauffman, Needy, Clackamas Co., Oregon, sends us a 2-page price list. Queens and bees are the particular things advertised. We are glad to see supply dealers start up in Oregon, for it gives me pain every time somebody sends us an order for queens and bees to be shipped this great distance. Friend K.'s prices on bees and queens are the same as our own.

Second-Hand

Foundation Mills!

The three following mills we have taken in the way of trade. Although they will do just as good work as new ones, they are old-fashioned in style, so we offer them at a low price. They have all been worked over, so as to make the new style of cell.

One with 5½-inch rolls, cost new $15.00; present price, $7.50.

One Washburn mill, 9 inch, nearly as good as new, offered for $15.00.

One Olm mill, 10½-inch rolls, made about a year ago, also for $15 00.

Besides the above, we have a $60.00 nickel Dunham mill, made expressly for us, which we offer at $25.00. The mill has been used but little. The three mills first mentioned are in our possession, ready for shipment. The last one is with Charles Dadant, Hamilton, Ill. A. I. ROOT, Medina, Ohio.

UNPARALLELED OFFER.—Warranted Italian queens only $1.00. Address S. F. REED, North Dorchester, N. H. 7-13d.

WE are rejoicing in 6292 names to-day, March 27, and our bees are all in tiptop order *too*.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, APR. 1, 1884.

Set a watch, O Lord, before my mouth; keep the door of my lips.—PSALM 141: 3.

ALSIKE-CLOVER SEED DOWN TO OLD PRICES AGAIN.

WE have just received 30 bushels of the nicest alsike-clover seed that we ever had for sale, which we can ship by first train at $10 per bushel; $5.25 per half-bushel; $2.75 per peck, or 20 cents per pound. By mail, 18 cents extra for bag and postage.

BLASTED HOPES.

PLEASE send in your reports of failures, friends, and we will keep the above department going; but don't send in essays about bee culture being a failure. In fact, I do not believe we want *essays* on any subject just now. Give us facts from experience, both good and bad.

PEA VINE, OR MAMMOTH RED CLOVER.

SO many questions have been asked in regard to pea-vine clover, we have decided to send a small package free to any who may care to see the seed, and test a few plants. Just tell us on a postal you would like some, and we will mail a few seeds, with directions for cultivation.

PATENTS AND BLACKMAILING.

JUST now we hear of a little breeze about somebody who has patented the idea of setting the sections directly *on* the brood-frames. (Our friend Langstroth patented the idea of a bee space between the brood-frames and the honey-boxes, as you may remember.) This is even worse than Mitchell and the other man, who had a patent on having hives two stories high, or one hive on top of the other.

FOUL BROOD; AND DOES IT EVER GENERATE SPONTANEOUSLY?

IN answer to several inquiries, I do not believe it possible that foul brood was ever originated because healthy brood died from being chilled, or from any other such cause. Corn never grows where none has ever been planted; neither does any other plant grow without seed, and foul brood is, if I am correct, a plant, or, what amounts to the same thing, a fungoid growth.

AN ITEM ON THE SPRING-DWINDLING MALADY.

NEIGHBOR H. has wintered his River apiary almost without loss, and the bees, like our own, are bright, clean, and entirely free from any trace of the bee disease. His home apiary, however, not over two miles from our own, has dysentery and dwindling badly. No feeding was done at any of these three apiaries—all had natural stores. What should make the difference?

OUR OWN APIARY.

WE have 150 colonies of bees, all in nice trim. Only one has been lost up to date; 30 of the 150 contain imported queens; 30 more, select tested queens, and the remaining 90, tested queens; therefore we have no blacks nor hybrids, and probably shall not have any black queens for sale during the season; but we may have a few hybrids as soon as we get to selling untested queens. Those who have blacks and hybrids to dispose of can advertise them free in the proper department.

I AM happy to say, that beeswax seems to be at a standstill, and bids fair to remain about where it is until about the end of the season. If it will do this, we shall probably have a pretty big drop about the time the demand begins to decline. Perhaps one reason why prices have not run up, is because so many are using foundation-mills of their own, thus preventing, partially, the chance of speculating and making "corners" in wax.

NEW INVENTIONS IN BEE CULTURE.

Do not go to the expense of sending us models by express, friends, till you have first written in regard to your inventions. The greater part of them that are sent in are simply old ideas that have been advanced and discarded. Write first, telling me about it, then I can tell you whether it will be well to keep working at it, or to send a model; and by all means, read over the back numbers of the journals, to see what has been done, or, at least, consult the indexes; and, as a matter of course, refer to the modern bee-books now before the people, and keep posted as to what has been already done.

DRONE-TRAPS.

WHILE describing friend Alley's trap in our issue of March 1, p. 150, it seemed to me as though the idea was not quite new, and I am now reminded that the essential features were described on page 467, of our Sept. No. for 1882; in fact, friend J. D. Black, Brandon, Ia., sent me a model of it, which I have now in my possession. We presume friend Alley did not get his idea from that editorial; but as he has had GLEANINGS right along, it seems to me a little strange he should claim it as his invention. I can give a drawing and explanation of the original trap sent us by friend B., if it is thought necessary.

WE have received from Rev. T. F. Bracken, New Florence, Pa., one of the brightest little pamphlets that have fallen to our lot to see in many a day. It is entitled, "A Dose of Truth, in Three Parts." The three parts of those doses are as follows: "The use of tobacco by the clergy; its sale by church-members; means and motives to reform." The price of the book is 25 cts., and it is hard to find more wisdom embodied in one little book. Especially am I pleased with its Scriptural texts in regard to tobacco. If any one thinks the Bible does not cover the ground, let him read the first few pages. May God's blessing be with friend B. in the stand he has taken; and may it lead the clergy to realize what they are doing when they persist in the use of tobacco!

THE proper clerk reports that he has three boxes of beeswax on hand, no name, date, nor any thing to tell whom they came from, or where. There are also half a dozen letters, perhaps, saying they have sent us beeswax, but don't tell how much, or give us any clew to the boxes. In our advertisement for wax on the cover of GLEANINGS, we give a constant caution, and request you to put your name on the box, and say how much you send. One of the little gummed labels I have said so much about, telling where you live and what your name is, pasted on the box, either inside or out, would fix it all pleasant. I know you say you are willing to trust me to do the right thing; but, friends, I do not want to be trusted. Put your name on your box of wax, then write a card telling just how many pounds you send, and how you sent it.

BYRON WALKER'S IMPROVEMENT IN ONE-PIECE SECTIONS.

ABOUT a year ago, friend Walker told us in an article about his plan of making the Gray section so it would fold in the right place itself. We neglected to say that we have used the plan ever since, and our machines have all been sent out with the saws sharpened in such a way as to cut the proper side of the groove a little deeper. I believe the plan is now in use by nearly all manufacturers of one-piece sections. Whether they struck upon the idea themselves, or whether the hint in GLEANINGS was what started them that way, is more than I can say. In any case, the thanks of the bee-keepers in general are due friend W. for his timely suggestions. It is true, that when the sections are folded up they are inclined to be a little more out of square; but when they are put up in their respective wide frames or cases, they are held true, and readily sit of their own accord after they have been a little time in that position, or become filled with honey.

SELLING RECIPES.

AN objection has been raised to my remarks last month, on the ground that lawyers and architects and others frequently charge five, ten, and even one hundred dollars, for the contents of a single sheet of paper. It seems to me it should be generally understood that I was not speaking of work prepared for a single individual, but rather of something needed by so large a class of individuals that a printing-press would be required to strike off the copies. After the matter and drawings are prepared for the press, the expense of 1000 or 10,000 is but a small matter; and if 1000 or 10,000 people would be benefited by it, to act in accordance with the spirit of the present age the price should not be $1 00, nor even 25 cents, for that matter, for the contents of a single sheet of paper. This is my opinion in the matter, and I do not mean to let any thing go into GLEANINGS that would encourage or foster, directly or indirectly, the plan of selling secrets, to which I have alluded. Another thing: Such a course would involve a promise "not to tell;" and when I know any thing that is valuable, I shall always tell it. If I had a neighbor who knew something that would save me great pains and labor, in a few words, and wouldn't tell it, I should feel he was not very neighborly. Of course, I do not want anybody to break promises that have been made; but I would avoid making promises in such a matter.

LONG LETTERS.

UNTIL within the past few months I have been in the habit of reading every letter addressed to me. I am sorry to say, dear friends, I can do it no longer. In my new desk is a large apartment, labeled "Letters not Read." They have been waiting months until I could get time to consider them more fully. I think it no more than fair to tell you that I shall probably never get to them. More letters are going in there daily. I glance over them as they come out of the mail, to ascertain, as well as I can, whether they contain any thing of sufficient importance to be read carefully. If there is important matter for print, they are laid aside as matter for GLEANINGS; but this department is also so full that it can never be used. Business letters I look through briefly, much the same way, and then give them to the proper clerks to read carefully. You may ask why I do not have somebody else read carefully these unread letters. It would require a very expensive hand; and, worst of all, I do not know of anybody in the world who could read them and give such answers to them as I should like to have given. The moral that stands before us, friends, is, to be *brief*. Where there is so much to be done, we shall have to get over wasting words on unimportant subjects. A large part of these unread letters are from beginners in bee culture, asking my opinion of the new hive they have just got up. Many of the letters are from those who never read the A B C book, and very likely never read a bee-journal of any kind. Long pages are devoted to describing things already known, and oftentimes fully described in our books and journals. Another thing: Many times where something is wanted, a page or more is occupied with a sort of preface. Go right into the matter at once, friends, and tell me as briefly as you can what it is you wish, and I will try to give you a prompt answer. I feel sad to write this; but the duties I owe you all, I think, demand it.

ORDERING THINGS DIFFERENT.

I KNOW this is a world of many men and many minds; and I know, too, that if people did not have different tastes and wants, we should not only lack variety, but we should lack progress. Still, where one wishes to economize time and money, much might often be saved by endeavoring to use regular goods in the regular channels of trade. I was reminded of this by an order from a friend who wanted a couple of our tents for setting over bee-hives, all but the sticks. I told him they would be 25 cents less, sent thus. Now, we make these tents but once each year. The materials are brought together, and one has it his business to do the whole. Had I only thought of it, our cheapest way would have been to have sent our friend two regular tents, telling him to get out the sticks, and throw them away. But we attempted to pack all the different parts, except the sticks. After trying three or four times, getting clerks out of temper, as well as our customer, we came pretty near giving up that there was nobody in our establishment who could tell how or who could himself put up a bee-hive tent all but the sticks. First, the cloth only was sent; then our friend complained that he did not have the cords. The cords were measured off, sent by mail; then he did not have the rings nor the bolts nor the washers nor the screws. A great many times some friend has wanted a certain part of our 50-cent smoker, not advertised in the list. Had he ordered a whole one, we should have had nothing to do but to write his name on one from the great heap already piled up beside the mailing clerk; but to get the part wanted, a clerk must go to the smoker room, and thence perhaps to the tin-shop, thence to the machine-shop, stopping workmen, calling in others to help decipher just what was wanted, and even after all this trouble and hindrance, sending the wrong thing, perhaps, and then getting a long letter about it for me to read and answer. If you ask for something advertised in our price list, it ought to go promptly, like clock-work. But something a little out of the beaten track or channel results as I have told you above.

HOLY-LAND,
CYPRIAN, AND ALBINO
Queens & Bees.

We have a strain of Syrian bees that are very light, prolific, great honey-gatherers, and as gentle as the average Italians. The different breeds raised in separate apiaries. Tested queens now ready; untested queens by the first of May. Price, one-fourth more than Root sells Italians. Italian queens, and bees by the pound, same price as Root's. Send for circular.

H. B. HARRINGTON,
7-8-10-12 **MEDINA, OHIO.**

FOR 1884.—ITALIAN AND CYPRIAN BEES AND QUEENS FOR SALE. Address
7d OTTO KLEINOW, Detroit (opp. Fort Wayne). Mich.

J. W. ECKMAN,
RICHMOND, FORT BEND CO., TEXAS,
DEALER IN
PURE ITALIAN BEES AND QUEENS.
7tfdb *SEND FOR CIRCULAR.*

PURE ITALIAN QUEENS!

Bred in "Sweet City" Apiary. Bees by the lb., and nuclei of any size. Write for circular.
7-13d. G. W. DEMAREE, Christiansburg, Ky.

NEVER BEFORE ATTEMPTED!

I have invented a *Queen Cage* by means of which I guarantee both safe arrival and *safe introduction* of all queens purchased of me, for only a small addition to regular price of queen. For full particulars send for my circular at once. S. A. DYKE,
1-15d. Box 473, Pomeroy, Ohio.

I. X. L. EXTRACTORS

$7.00 to $10.00. Cold Blast Smokers (mail free), $1.00. Plymouth Rock Eggs, per sitting, $1.50 Circular free. W. C. R. KEMP, Orleans, Ind. 7-8d.

APIARIAN ✣ SUPPLIES

ANY one wishing a Barnes circular saw can save money by sending their order to me.

Full colonies Italian bees, in May, $10; June, $8.00; July, $7.00; hybrids, $1.00 less. Three-frame nucleus, May, $4.50; June, $3.50; July, $3.00. All bees in full-size (L.) frames. Italian queens, June and July, $1.00; after, three for $2.00. All queens from imported stock. Bee veils, best kind, 50c., post paid.

D. S. BASSETT,
7-8 9d. Farnumsville, Worcester Co., Mass.

ITALIAN QUEENS AND BEES!

Tested queens, in May, $3.00; June, $2.50; after June, $2.00. Warranted queens, in May, $1.25; June, $1.10; after June, $1.00. I give special attention in breeding my queens to have them perfect. Be sure to send for circular giving price of bees. Satisfaction guaranteed. CHAS. D. DUVALL,
7tfd. Spencerville, Montgomery Co., Md.

EMPTY COMBS.

I have about 500 empty combs in L. frames which I will sell cheap; also a lot of 4¼x4¼ sections with combs drawn out; empty sections, frames, Simplicity and L. hives, extractor, etc. All at very low prices. Address O. A. HOAG,
7tfdb. West Union, Cass Co., Mo.

Gray Bees for Sale!

Having received many inquiries the past season in reference to my gray bees, to you and others who wish to purchase, I will say that I will spare a few colonies, to be shipped in April and May, 1884, at $10 per colony, in good hives, straight worker combs, and lots of bees. After years of experience, this race of bees has proved to be the most profitable to me. Those who suffer much from being stung would find these bees very mild. I use no protection when handling them. All questions promptly answered, and the best of reference given as to responsibility. Address D. F. LASHIER.
7d. Hooper, Broome Co., N. Y.

This notice will not appear again.

BASSWOOD-TREES.

If ordered at once, sprouts, per hundred, $1.00; two to four feet, per hundred, $3.00; four to six feet, per hundred, $5.00. Six to ten feet, 10 cents each. CHAS. T. GEROULD,
7. East Smithfield, Bradford Co., Pa.

ITALIAN BEES & QUEENS FOR SALE

Tested queens, May, $3.00; June, $2.50; after July 1st, $2.00 each. Untested, after June, $1.00 each; six for $5.40.

Full swarms in 8-frame Langstroth hives, in May, $7.00; two for $13: ten for $60. After June 1st, $1.00 per swarm less. Satisfaction guaranteed.

I. S. CROWFOOT,
7-9d. Hartford, Washington Co., Wis.

ONE-PIECE SECTIONS A SPECIALTY!

Sample lots of 100 sections, 50 cents. See adv. in GLEANINGS of Feb. 15. B. WALKER & CO.,
7-13d. Capac, Mich.

RECENT ADDITIONS TO THE COUNTER STORE.

THREE-CENT COUNTER.

Postage.]		[Pr. of 10,	of 100
	MATCHES, Best Parlor, no Brimstone, no smell.		

200 matches in a neat little casket. A box of 144 of these caskets for only $3.00

4	PAN, OBLONG, for 1 lb. maple sugar cakes, or for bee candy	28	2 75
3	WIRE ON SPOOLS, tinned or black	25	2 25

No. 30, on spools. The above are very convenient for wiring frames on the plan several times given in GLEANINGS, by hooking it on to wire nails with a hooked point. No. 30 tinned wire 20c per lb.; in coils of 5 to 10 lbs., 15c. No. 36, double price.

FIVE-CENT COUNTER.

3	GLASS-CUTTER AND PUTTY-KNIFE combined a handy and useful tool	40	3 50
2	WIRE ON SPOOLS, No. 36 tinned	45	4 00
5	CUP, 1½ PINT, well made	45	4 00

TEN-CENT COUNTER.

3	FILE, CANT, 4 in., for circular saws	90	8 75

FIFTEEN-CENT COUNTER.

	MOP-STICK, best make	1 25	10 00
12	STEAK-POUNDER, *tinned iron*, and a most useful utensil	1 25	11 00
	LUMINOUS MATCH SAFE	1 20	10 00

A beautiful bronze match-safe by daylight, having places for both burnt and unburnt matches. In the night-time the word "Matches" in large plain letters shines forth to anybody who may be in need of them. These beautiful conveniences have been heretofore sold for 25 cents; but by buying $120.00 worth at one time, we are enabled to reduce the price to 15 cents.

TWENTY-CENT COUNTER.

4	SOCKS, celebrated Shaw knit	1 90	18 50

The easiest fitting, best, and most durable hose made, for the money. Sizes kept in stock, 9½, 10, 10½, 11, and 11½.

TWENTY-FIVE CENT COUNTER.

4	WASHER-CUTTER	2 25	21 00

A nice tool in a neat little box.

7	FILE, CANT, 8 in., for circular saws	2 00	18 00

SEVENTY-FIVE CENT COUNTER.

	BOYS' AXE, in good stout handle	6 00	50 00

ONE-DOLLAR COUNTER.

	AX, fine steel	9 00	85 00

Securely fixed on a good stout hickory handle.

A. I. ROOT, Medina, O.

SEND

FOR OUR FINE DESCRIPTIVE PRICE LIST

—OF—

Chaff and Simplicity Bee-Hives

—AND—

Apiarian Supplies in General.

Good work, good material, low prices, and *satisfied customers*. Try us.

S. C. & J. P. WATTS,
4 b tf. d **Murray, Clearfield Co., Pa.**

ALLEY'S

Drone-Excluder, Queen & Drone Trap Combined.

Sample, by mail, 65c.; express, 50c. In the flat, per dozen, including one made for model (13 in all), $3.00. Those who purchase a sample can get one dozen in the flat by remitting $2.50. Drone-excluder, *without trap*, by mail, 30c.; by express, 20c.; in the flat, not less than one dozen, 15c. each. For description see page 151, GLEANINGS.

Send for our 23d annual circular and price list of four races of bees, queens, and supplies.
5btfd HENRY ALLEY, Wenham, Essex Co., Mass.

HEDDON'S CIRCULAR

Can be had by sending your address to

JAMES HEDDON, Dowagiac, Mich.

☞State if you had his for 1883. 3t bfd

STEAM BEE-HIVE FACTORY OF THE WEST.

Hives and sections of all kinds. Italian bees, colony or nuclei; comb foundation, smokers, extractors. Best and cheapest saw mandrel made; Babbitt boxes all complete, 20 inches long, $6.00. All supplies very low for cash.
E. Y. PERKINS,
3-5 7-9-11-13d Jefferson, Greene Co., Iowa.

ASHMEAD SIMPLICITY BEE-HIVE!

Simple, cheap, and practical. This hive does away with all frames for comb honey; and as it is in tiers, all the heat of the hive is confined just above the brood-chamber. Can use it with or without separators. Send $1.50 for a sample hive, and write for prices in the flat. Manufactured by
T. GRAHAM ASHMEAD,
3-5-7d Williamson, Wayne Co., N. Y.

Bees for Sale.

I have 40 COLONIES OF ITALIAN BEES (in Simplicity frames) of Doolittle's best imported stock, which I will sell at $7 00 per colony delivered at express office.
GEO. F. WILLIAMS,
7-8d *New Philadelphia, O.*

STEEL NAME-STAMP.

Would you like your name on that new tool? Send me your name plainly written, with 20c for each letter and receive by mail a die warranted to stand upon steel, iron, or wood; three initials, 75c.

L. S. BENHAM,
7-8d MT. BLISS, ANTRIM CO., MICH.

FOR SALE!

QUEENS, BEES, COLONIES, COMB FOUNDATION, BROOD AND WIDE FRAMES, SHIPPING-CRATES, HIVES, HONEY-EXTRACTORS, HONEY-KNIVES, BINGHAM SMOKERS, PRIZE HONEY-BOXES, AND EVERYTHING A LIVE BEE-KEEPER NEEDS.

☞Send us an order, and we will please you, we know. Price list sent on application.

F. A. SALISBURY & Co.,
GEDDES, ONONDAGA CO., N. Y.
2tfd-b

CHEAP! - CHEAP!

FULL COLONIES, NUCLEI, and QUEENS.

SEND FOR PRICE LIST TO

DAN WHITE, NEW LONDON, HURON CO., O.

7tfdb

HOLY-LAND & ITALIAN QUEENS.

I shall this season be better prepared to furnish superior queens promptly than ever. Please order early. Satisfaction and safe arrival guaranteed. Tested queens of either race, before June 1, $3 00; in June, $2.50; after July 1, $2.00. Untested, before June 1, $1.25 each; six or more, $1.00 each; after June 1, single queen, $1.00; six, $5.50; twelve, $10 00.

I will send Cook's Manual of the Apiary, cloth, for 90 cts., to purchaser of queens.
5tfdb **I. R. GOOD, Sparta, White Co., Tenn.**

HIVES. 1884. HIVES.

SEND for new price list of supplies for the apiary. Hives by the 100 in flat cheap, and best quality. Also rakes and cradles. White's pat. wire brace rake, best and most durable. Send for price by the dozen.

A. D. BENHAM,
4tfd-b OLIVET, : EATON CO., : MICH.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfdb JNO. VANDERVORT, Laceyville, Pa.

COMB FOUNDATION.

Having purchased a large stock of choice yellow wax, we shall make a specialty of this branch of our business this season. We also offer general apiarian supplies. Also a choice lot of Italian and Albino bees, bred from our new strains, which gave such good satisfaction the past season.

Send for our price list, and state where you saw this.
WM. W. CARY & SON,
4btfd Coleraine, Franklin Co., Mass.

BEES FOR SALE.

50 SWARMS ITALIANS

In Sayles Simplicity hives. Per swarm.......$10 00
Order now. Shipped as soon as season is favorable.

SWEET-CLOVER SEED.

Per lb., 17c; by mail..............................35c
5tfdb **J. A. GREEN, Dayton, Ill.**

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON.
3btfd. Hamilton, Hancock Co., Ill.

FRUIT, SHADE, AND SILK!

RUSSIAN MULBERRY-TREES, about 18 in. high, sent postpaid for 15c. each, or $1.50 per dozen. Smaller size, 10c., or $1.00 per doz. *Order early*.

Address S. P. YODER,
6-7d E. Lewistown, Mahoning Co., Ohio.

Strawberry Plants, $1.00 per 1000.

The three best hardy berries—Col. Cheney (early); Chas. Downing (medium); Kentucky (late). Wilson and Crescent, $1.50 per 1000. 1 doz. of any of the above free by mail, 20c. Send money with order.

Address A. FIDDES,
5-6-7d Centralia, Marion Co., Ill.

QUEENS.

I will sell a limited number only, of choice queens for *breeding purposes*, at a very low price, considering the quality of stock. Satisfaction guaranteed.

Address, 5-7d
GEO. W. HOUSE, Fayetteville, Onon. Co., N. Y.

REVERSIBLE-FRAME HIVES,
—AND—
WHITE BASSWOOD SECTIONS.

SEND FOR CIRCULAR AND PRICES.
5-7-9d O. J. HETHERINGTON, East Saginaw, Mich.

1884. 1884.

ITALIAN QUEENS.

Untested Queens a Specialty!

Pure Italian Bees and Queens in their highest type of purity and excellence. Bred from the eggs in full colonies. One hundred per cent of our untested queens are purely mated. Queens will be ready to ship April 1. No new races of bees in my apiary, nor will be. Send for circular. Untested queens, $1.00 each; $11.00 per dozen; 3-frame nuclei, $4.00 each with untested queen.

T. S. HALL,
5tfd b **Kirby's Creek, Jackson Co., Ala.**

F. HOLTKE & CO.,

CARLSTADT, BERGEN CO., N. J.,

make a specialty of fine Carniolan and Italian Dollar Queens. $1.00 each; six, $5.00; twelve, $10. To every one sending his order with cash before June 1, to make the amount $2.00 or more, I will send a selection of choice greenhouse plants, gratis, by express or mail. State if you have an express office. Queen sent in new-style cages. All queens reared from Frank Benton's select imported. For reference, address King & Aspinwall, editors *B.-K. Mag.*, New York. [7-9d.] F. HOLTKE & CO.

BEE-HIVES,
CHEAP! CHEAP!

Simplicity and Heddon hives and cases. The last named, a *specialty*. One-piece sections, foundation, smokers, etc. Send for price list.

J. J. HURLBERT,
3-5 7 9-11-13d **Lyndon, Whiteside Co., Ills.**

Pure Italian Bees and Queens!

SEND FOR PRICE LIST.

A. B. MILLER, WAKARUSA, ELKHART CO., IND.
5-7-9d

ALBINO & ITALIAN QUEENS

Those desiring to secure *pure* Albino queens will best accomplish their object by purchasing of the original producer of this valuable and beautiful race of bees. For circulars, address D. A. PIKE,
5-7-9inqd Smithsburg, Wash. Co., Md.

25 COLONIES
ITALIAN, HYBRID, & BLACK BEES
FOR SALE,

in the improved American hive, painted white. Frames well wired. Combs built on fdn., and all in first-class condition. Delivered on board cars here, at $5 00 per colony, in numbers to suit purchaser.

Address L. B. STANGER,
7d. Uniontown, Delaware Co., Iowa.

FLAT-BOTTOM COMB FOUNDATION.—High side-walls, 4 to 14 square feet to the lb. Circular and samples free. J. VAN DEUSEN & SONS,
Sole Manufacturers,
4tfd Sprout Brook, Mont. Co., N. Y.

Bees For Sale!

15 STANDS ITALIAN BEES,

All are VERY strong (having been 2 and 3 story hives last summer), plenty of good honey, to last till June; will guarantee safe arrival and healthy condition. Simplicity or VanDeusen-Nellis hive; wired frames, 1½-story hives. Price $6.50, f. o. b. cars here.

Address,—
3-5-7-9d *L. A. PORTER, Poplar Bluff, Mo.*

A Full Line of Apiary Supplies.

Headquarters for the West. Send for price list. Cash paid for beeswax. HOWE & SON,
1-11d No. 303 Broadway, Council Bluffs, Iowa.

HOW TO START IN BEES

And make 'em pay. See OLIVER FOSTER'S circular on bees, queens, and fdn. molds.
5tfd b MT. VERNON, Linn Co., IOWA.

EARLY BEES!

BEES of all kinds at prices to suit purchasers, at all seasons of the year.

After July 1st, almost given away.

A. W. CHENEY,
5tfdb Kanawha Falls, W. Va.

BEES FOR SALE!

A large lot of Black Bees for sale cheap, all in good condition. Address P. H. KING,
12½tfd-b Henderson, Henderson Co., Ky.

Pure Italian Queens,

Daughters of imported mothers; untested, until May 1, $1.50; from May 1 to Nov., $1.00. Tested, $3.00 and $2.00. Special rates for large orders. Nuclei a specialty.

D. HALL & CO.,
7th Dist. N. O., CARROLLTON, LA.
4-12 inqd

WHY SEEK ANY FURTHER?

My strain of Italian bees is not surpassed for honey-gathering and beauty of form. Dollar queens a specialty. A. COX,
5-7-9d. White Lick, Boone Co., Ind.

ALL DOVETAILED SECTIONS!

Langstroth and chaff hives, brood and wide frames, tiering-up cases, shipping-crates, honey-extractors, paper boxes for 1-lb. sections, wire nails, queens, and nuclei. Write for circular. WHEELER & ISBELL, Norwich, Chenango Co., N. Y. 579d.

EARLY AND GOOD!

TESTED AND UNTESTED QUEENS, raised from the best and purest stock. Price list on application. Send orders at once to

W. J. ELLISON,
6-7-9-11d **Stateburg, Sumter Co., S. C.**

BOOKING ORDERS!

Why not buy your queens and bees direct from the breeder? 25 cents saved is 25 cents made. I am now booking orders for queens and bees, to be delivered in April, May, and June, at the following low prices: Six untested Italian queens, with 6½ lbs. bees, $9.00; six queens, with 6 lbs. bees, $11.

Send for my new Price List. Address
W. S. CAUTHEN,
5-15d Pleasant Hill, Lancaster Co., S. C.

BE SURE

To send a postal card for our illustrated catalogue of

APIARIAN SUPPLIES,

Before purchasing elsewhere. It contains illustrations and descriptions of every thing new and desirable in an apiary,

AT THE LOWEST PRICE.

Italian Queens and Bees.

J. C. SAYLES,
HARTFORD, WASHINGTON CO., WIS.
1-3-5-7-9-11d

COMB FOUNDATION.

Wax worked by the lb. on shares, or for sale, on the Given Press; size of dies 9x16 inches. Italian bees a specialty. A few black and hybrid colonies for sale. Send a card for prices; 200 bushels onion-sets; 2000 asparagus roots; strawberry and raspberry roots; W. Russian oats, and Champion potatoes. Send for descriptive price list. Lose no time, but send your orders early.
5-7 9d A. J. NORRIS, Cedar Falls, Ia.

THE ALL-PURPOSE HIVE.

Arranged for continuous passage-ways, continuous combs, no honey-board, no bee-space, chaff and single-walled, no patent. Sample in flat. Given fdn., sections, etc. GEO. F. WILLIAMS,
2-3-4-5-6-7d New Philadelphia, Ohio.

DADANT'S Foundation Factory, *wholesale and retail.* See advertisement in another column. 3btfd

1884. For Sale. 1884.

Pure Italian Queens and Bees

FIVE-FRAME (Langstroth Frame) COLONIES

A specialty. Five bright new combs, wired in, covered with young bees, filled with brood and stores with a pure young fertile Italian queen. My queens are carefully bred from best imported and homebred stock. Bees gentle, industrious, and beautiful; better than a natural swarm. I was awarded first premium at St. Louis Fair last fall over quite a number of worthy competitors for best Italian queens and bees. Send for circular and price list.

WILLIAM LITTLE,
5-7-9-11-13-15d **Marissa, St. Clair Co., Ills.**

SIMPLICITY B-HIVES,

with 10 frames and cover. 50 cents. The same in flat, 40 cts. Double-story Langstroth hive, with 20 frames, all complete, $1.00. 1-lb. sections, per 1000, $3.75. T. A. GUNN,
5-7-9d. Tullahoma, Tenn.

200 COLONIES OF

ITALIAN BEES FOR SALE.

TRY OUR IMPROVED ITALIANS.

Send for Price List. Address

Dr. G. W. Young, or C. F. Lane,
12-1-3-4-5d **LEXINGTON, MO.**

BEE-KEEPERS' SUPPLIES.

It will pay to get our prices before purchasing supplies; good Langstroth hives, with 8-inch cap frames, in the flat, 60 cts. each; Langstroth winter-protector, in lots of 50, $1.50 each; small lots, $1.75, all in the flat. Manufactured of good pine lumber. Workmanship unexcelled. Crates, sections, and foundation. **WM. O. BURK,** 8tfd
Successor to Hiram Roop. Crystal, Mont. Co., Mich.

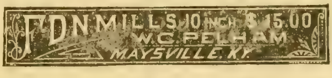
Nuclei! Nuclei!

Bright Italians, gentle and beautiful. Will send any number of frames desired in nucleus. Try my half-colonies. Better than a new swarm. Terms reasonable. Send for circular, and don't forget it.
DR. A. P. COULTER.
5-7-9-12d. Lock Box 231, Marissa, St. Clair Co., Ill.

I HAVE 120 swarms of bees, and a 6-horse-power engine to sell. All in good order. HENRY PALMER, Hart, Mich. 5-7d

DOVETAILED ONE-PIECE SECTIONS, $4.50 per 1000. Other goods proportionately low. E. S. MILLER & BRO., Dryden, Lapeer Co., Mich. 5-7-9d

CYPRIANS and SYRIANS direct from their native lands. Fine queens before June 1st. $10; extra fine, $12; during June, $9; extra fine, $10. **Carniolans imported from Carniola, and Italians from Italy.** Fine queens before June 1st, $6; extra fine, $7; during June, $5; extra fine, $6. Any six queens, 5 off; ten, 10% off. Safe arrival. Expressage prepaid to N. Y. Send U. S. bills in registered letter to
3 5-7-9d FRANK BENTON, Georgen St., 3, Munich, Germany.


FDN MILLS 10 INCH $15.00
W. C. PELHAM
MAYSVILLE, KY.

NUCLEUS COLONY with Italian queen after June 1st for only $3.00. Samples of Business cards, 2c. J. L. HYDE, Pomfret Landing, Conn. 12½tfd.

BEE-KEEPERS, LOOK AT THIS!

Just what you want to make bee-keeping a pleasure as well as a profit, is the Acme Honey Case, or Crate. The principle of this case can be easily applied to any movable-comb hive, so as to give free access to lower wide frames or surplus brood-frames, without removing case or top boxes. After two years' trial, I can say that, for convenience for comb and extracted honey, it is without a rival. Circulars free. For full particulars, address

THOMAS GORSUCH,
7d. Gorsuch, Huntingdon Co., Pa.

I WANT TO SELL!

Being unable to keep my apiary in the city for want of room, I offer the same for sale cheap. It consists of about 60 colonies of Italian bees. Hives are mostly one-story chaff, with top story for surplus. Langstroth frame, 17⅝x9⅛. All combs built on heavy foundation. 200 surplus brood combs, etc.
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FIFTEEN 3-FRAME NUCLEI,

each with Italian queen, $4.00 each, or queens by mail, $2.50 each. Ready now.

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For Sale Cheap!

A house and lots, barn and shop; 80 stands of bees (Italian), hives, etc. For sale cheap.
7d. C. A. MORGAN, Pokagon, Cass Co., Mich.

FOR SALE,

Or to let on shares, 75 colonies of bees, in good condition.
W. F. LEWIS,
7d. Baldwyn, Miss.

BEES FOR SALE!

I have 40 hives of Italian bees which I will dispose of cheap. All in good condition. Any one wanting bees can address me. AMOS BLANK,
7-8d. Woodville, Sandusky Co, Ohio.

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Recent valuable improvements in our machinery enable us to make bottom prices. Our foundation is unexcelled by any made in the United States. *Orders filled in rotation.* GENERAL SUPPLIES.
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TESTED QUEENS, $2.00. Untested, $1.00. 4-frame nuclei, $3 50 and $4.50.
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We keep in stock a full line of bee-keepers' supplies, Simplicity and chaff hives, one-piece sections, crates and cases, extractors, smokers, Given foundation, and **BEES AND QUEENS.** Circular free.
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50 colonies of Italian bees in extra good Langstroth hives. Correspondence solicited.
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One-Piece and 4-piece boxes, 4¼x4¼ in..... ... $4 25
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Send 5 cents for sample. Hives at reduced rates. Price list free. J. P. McGREGOR,
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ITALIAN and HYBRID BEES FOR SALE. Strong stocks.
5-7d JULIUS FROSCH, Elmore, Ottawa Co., O.

EGGS THAT will HATCH, from PRIZE-WINNING WHITE LEGHORNS,

AT $3 PER 13; $5 PER 26, OR $15 PER 100.

No other fowl can or will lay as many eggs in 365 days. All acknowledge it.

Winter layers? The very best; 150 W. L. pullets gave us 2394 eggs in January. We exhibited 4 breeding-pens at the grandest exhibition ever held in America, at

Madison - Square Garden, New York City,

Jan. 23 to 30, 1884, and won, in competition with 15 breeding pens and 146 specimens of this variety, 1st, 2d, and 3d prizes, and the specials offered, for best cockerel, for best breeding-pen, and silver cup for best display.

We now offer from these **Prize - Winning** breeding-pens, **Eggs** for **Hatching,** and will try to please every customer. Send stamp for descriptive circular.

Address

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We furnish EVERY THING needed in the Apiary, of practical construction, and at the lowest price. Satisfaction guaranteed. Send your address on a postal card, and we will send you free our Large Illustrated Catalogue. Address
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ESTABLISHED 1855.

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We have constantly on hand a large stock of Domestic and Imported beeswax in original shape, which we offer to manufacturers of Comb Foundatation at lowest prices. Write to us for prices. Address

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Beeswax Bleachers & Refiners, SYRACUSE, N. Y.

7-14d-b

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All sizes, and cheap. Descriptive circular free.
O. H. TOWNSEND, Agent,
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Italian Bees and Queens!

Full colonies in one-story Simplicity hive, standard L. frame (as made by A. I. Root), in May, $10; June, $8 00; July and after, $7.00. Hybrids, $1.00 less. Three-frame nuclei, L. frame, May, $4.50; June, $3.50; July, $3.00.

Dollar queens, June and July, $1.00; after, three for $2.00. All queens from imported stock.

Bee-veils, best kind, 50c postpaid. Satisfaction guaranteed. D. S. BASSETT,
8-9d. Farnumsville, Worcester Co., Mass.

FOR SALE!

Eleven Hundred Pounds of Beeswax.

J. C. CONVERSE,
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I have 60 swarms of Italian and Hybrid bees, all in good order, to sell at $7.00 each (on cars) in lots of 10 and up. Or the same in light shipping-boxes, with one comb of brood and honey, at $5.00 each.

Also 1000 lbs. clover honey at 9c per lb.
8d M. W. HARRINGTON, Homestead, Iowa.

Given Comb Foundation a Specialty.

Also apiarian supplies, circulars, and samples free.
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ITALIAN AND CYPRIAN BEES and QUEENS, by the colony, nucleus, and pound. Address
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Alsike-Clover Seed. Early Ohio, Clark's No.1, Hall's Early Peachblow Potatoes; Comb Fdn. and 100 colo's Bees. E. S. HILDEMAN,
8-9-10d Ashippun, Dodge Co., Wis.

3 *Beautiful TEXAS LILIES, 25c; 2 Texas* Cactus, 1 red and 1 yellow, 25c; 1 Texas Cactus, large, red or yellow, 25c; Turk's-Head Cactus, large, 25, 30, and 40 cents.
8 **WM. L. STILES, Austin, Texas.**

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BEE-KEEPERS,

LOOK HERE!

QUEENS and NUCLEI.

I am now prepared this season to furnish my customers and others a limited number of **ITALIAN QUEENS** and **NUCLEI.** Queens will be reared from choice selected homebred mothers, second to none. Queens and nuclei to be delivered in June and July. No orders taken after July 1st.

One Italian Queen in June.. ...$1 50.
" " " " July....... 1 25.
" Tested " " June... .. 2 50.
" " " " July....... 2 00.

1-frame nucleus (L. size frame), June or July...$1 00
2-frame " " " " " " " ... 2 00
3-frame " " " " " " " ... 2 50

Price of queen to be added to price of nuclei; as orders are received they are booked and filled in rotation. Special rates on large orders. Please send *cash* with all orders. Address

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8-12db

FOR SALE CHEAP!

A Barnes circular saw. Amateurs in bee-keeping, send your address on postal card for price, and what the saw will do. J. C. MILLMAN,
8d Elk Grove, Lafayette Co., Wis.

I WILL MAIL YOU my 20-Page Price List of ITALIAN, CYPRIAN, and HOLY-LAND BEES, NUCLEI COLONIES, QUEENS, and APIARIAN SUPPLIES, by sending me your address on a postal.
8d **H. H. BROWN,** Light Street, Col. Co., Pa.

YOUR name and address printed on 1000 slips of gummed paper, 40 cents; 1-cent stamps taken. Address B. HAMM, Houstonia, Pettis Co., Mo. 8d.

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Of Improved Italian BEES and QUEENS.

	May.	June	July-Oct.
Tested queens..............	$2 50	$2 00	$1 65
Untested queens............		1 00	90
Hybrid queens..............	1 00	50	40
Bees per pound.............	2 00	1 20	90
Bees in the brood, per 1000..	45	25	18

Send for circular. S. C. PERRY,
8-9-11-tfd Portland, Ionia Co., Mich.

BEES AT A BARGAIN.

I have 18 stands of bees, which I offer at $6 a stand. They have wintered well. Address
MRS. SALLIE S. ADAIR,
8-11bd Shawhan, Bourbon Co., Ky.

BEES FOR SALE

75 COLONIES ITALIANS, AT ONLY $6.00.

Sweet-clover seed, per lb., 17 cts.; by mail, 35 cts.
8tfdb J. A. GREEN, DAYTON, ILL.

Black and Hybrid Queens For Sale.

I have 20 or more hybrid queens for sale. Will take 50c each, after May 1; 6 for $2.75.
J. C. MISHLER, Ligonier, Noble Co., Ind.

We have 35 black queens and 8 hybrid, which we will dispose of between May 1st and 10th, at 35c for blacks, and 60c for hybrids, all 1 year old, and prolific. KENNEDY & LEAHY, Higginsville, Mo.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

NEW YORK.—Since February we have had a good demand for honey, both comb and extracted. At present our market is entirely bare of one-pound sections, but is still well stocked with two-pound sections. We are well satisfied with the quantity of honey we disposed of, also with the prices obtained for same. We expect to have a fair demand until about June. Not likely that our market will be sold out when the season closes, and several lots will probably be carried over. We quote comb honey: Fancy white, 2-lb. sections, 15@16c; good white, 2-lb. sections, 14@15c; fair white, 13@14c. There has been no extracted buckwheat in our market for some time. Extracted clover and basswood in good demand, and sells readily from 8 to 9c in barrels or kegs.

Beeswax.—Market has been dull for the past three weeks. No supply, and no demand. We quote choice yellow Southern, 36@37c. Good Western, 34@35c.
THURBER, WHYLAND & CO.,
April 11, 1884. Reade and Hudson Sts., N. Y.

KANSAS CITY.—*Honey.*—Demand for comb honey good, with lower prices — 15@16c for choice 1 and 2 lb. sections. Dark and broken, or irregular comb, slow at 10 to 12½c. The liberal receipts of comb honey from New York State have cast much Western honey in the shade, and our Western producers will have to look to their laurels. There have been thousands of pounds of Eastern honey marketed here this season, and almost every comb has been perfect in every respect. It is hard to sell the unsightly stuff that I am receiving daily from other sources, by the side of this handsome honey from the East. Extracted in fair demand, 8@9c, according to quality and color.
JEROME TWICHELL.
Apr. 11, 1884. Honey Depot, 514 Walnut St., K. C.

ST. LOUIS.—*Honey.*—Our market continues very dull for honey. Occasional sale, in barrel, 6@7c. Retail in small cans, 9@10c. Comb honey, a light retail demand, 14 to 16c in good order and good color. White clover, 18 to 20c. Any cases having broken combs, 10c.

Beeswax.—Not much arriving. Quote yellow at 36c.
W. T. ANDERSON & CO.,
April 12, 1884. 104 N. Third St., St. Louis, Mo.

CLEVELAND.—*Honey.*—There is no change in honey market. Best 1-lb. white continue to move off most readily at 18c, the 2-lbs. move more slowly at 16@17, and second quality is not in demand. Extracted, no sale. *Beeswax* wanted at 35c, but no supply.
A. C. KENDEL,
Apr. 9, 1884. 115 Ontario St., Cleveland, O.

CHICAGO.—*Honey.*—Honey is sold in a small way nowadays, package at a time. Prices are easy: 10@16c is the range on comb honey. Extracted is not meeting with any demand; have never known the demand to be so light; 7@8c is the range. *Beeswax* scarce at 30@37c.
R. A. BURNETT,
Apr. 10, 1884. 161 South Water St., Chicago, Ill.

BOSTON.—*Honey.*—Please quote our market as follows: 1-lb. comb, 19@20c; 2 lbs., 15@17c. Extracted, 8@10c. Dull sale.
BLAKE & RIPLEY,
Apr. 10, 1884. 57 Chatham St., Boston, Mass.

DETROIT.—The honey market is very dull, good honey going slowly at 16@18c.

Beeswax.—Hardly enough to be quoted, at about 35c.
A. B. WEED,
April 12, 1884. Detroit, Mich.

NOTES FROM THE BRIGHT-BAND APIARY.

FRIENDS:—The last time I appeared under the above head was more than a year ago, at which time, as some will remember, I laid much stress upon the superiority of my queens. Well, now for the result: Quite a number of queens were sold, and the next season (which was last summer) still a greater number were sold; in fact, I had orders for more than I could raise; consequently I have removed from my old place (Greenville, Tenn.), to this place, that I might raise earlier queens, and have facilities for raising a greater number of queens. I can now command 500 colonies in the queen business, if necessary. My intention is to produce queens not excelled by any. Price, untested, but laying, in April, $1.40 each; in May, $1.25 each; 90 cents each the rest of the summer. Tested queens, in May, $2.00; the rest of summer, $1.75. The above are from imported Italian queens; queens bred from Kingsley's improved bees, same price. Kingsley's improved bee is simply a cross between the Cyprian, Italian, and Holy-Land bees; and in reality they are ahead of any race, both for color and honey-gathering propensities. Sample live workers sent for 3c to pay postage.

All orders promptly attended to; safe arrival guaranteed; full directions sent with each queen.
Address CHAS. KINGSLEY,
6-14bd Benton, Bossier Par., La.

The Bee-Keepers' Guide;

Or, MANUAL OF THE APIARY.

10,000 SOLD SINCE 1876.

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10TH THOUSAND SOLD IN JUST FOUR MONTHS!

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A. J. COOK, Author and Publisher,
State Agricultural College, Lansing, Mich.

[We are prepared to furnish above at publisher's prices, whether wholesale, retail, or single copies.]
—ED. GLEANINGS.

Borodino, N. Y., Aug. 15, 1882.

CYPRIANS CONQUERED.—All summer long it has been "which and t'other" with me and the Cyprian colony of bees I have — but at last I am "boss." Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. Respectfully,
G. M. DOOLITTLE.

PRICES:

By mail, postpaid.

Doctor Smoker (wide shield)	3½ inch,	$2 00
Conqueror Smoker (wide shield)	3 "	1 75
Large Smoker (wide shield)	2½ "	1 50
Extra Smoker (wide shield)	2 "	1 25
Plain Smoker	2 "	1 00
Little Wonder Smoker	1¾ "	65
Bingham & Hethering'n Honey-Knife	2 "	1 15

To sell again, apply for dozen or half-dozen rates.

Address T. F. BINGHAM, P. M., or
BINGHAM & HETHERINGTON,
8d **ABRONIA, MICH.**

SEND FOR OUR PRICE LIST OF

APIARIAN SUPPLIES,

before purchasing elsewhere. Every thing needed in the apiary, at the lowest prices.
8 9d BUTLER & LUTHER, Poynette, Wis.

Dadant's Foundation Factory, *wholesale and retail.* See advertisement in another column.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS
F.A. Whiting

Vol. XII. **APRIL 15, 1884.** **No. 8.**

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

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GOOD QUEENS.

FRIEND C. C. MILLER TELLS US HOW HE WORKS TO GET THEM.

I COULD well afford to buy queens at $3.00, perhaps $5.00 each, to requeen each one of my colonies annually, if thereby each one could be made to yield as well as the best; therefore it pays to take much pains in rearing queens; and heretofore I have not hesitated to break up my strongest colonies for that purpose, making it more expensive than to buy them; but I thought I might get better queens. As I never raise queens, except for my own use, and as I do not care to requeen old colonies, or start new ones till the swarming season arrives, I have now adopted a plan by which I think the best queens can be raised, yet without interfering with the storing labors of any colony, unless it be the one which supplies the eggs for queen-rearing; and even that, by taking pains enough, might be kept steadily at work on the harvest. For the sake of convenience, however, my best queen is kept in a colony which is kept rather weak, having only about four brood-frames. The hive is placed on top of some other hive, of course above the supers; and when it gets too strong it is moved to a new location on the top of another hive. Its flying force will then join the colony over which it had been placed; but enough bees will be left, and of the best kind, to keep the queen laying, with no thought of swarming. Eggs for queen-rearing may be taken from any part of the brood combs where they may be found. But I find it more convenient to prepare a special place for them, especially as I can then tell the date when the eggs were laid. To this end I save up some sections which have been filled, or partly filled, and then emptied again, preferring those that are of about the right depth for brood-comb. The comb of one of these is carefully cut out of the section frame—mine are pound sections; if larger, I think I should use only part — then I take from the hive with the best queen one of the center frames, and cut a piece of comb out of the center of it, where the queen is most likely to lay, of just such size that the piece of section comb will fit snugly into the hole that is left. It will need no other fastening than simply crowding in. Returning the frame to the hive, I make a note in my record-book, of the date. Next day I look to see if eggs are in it. If not, I am pretty sure to find them a day or two later, and I keep track of the date on which the first eggs are laid. Usually I cut out this piece of section comb containing eggs, in about three days from the time the eggs are laid, and use it for queen-rearing, replacing it with a fresh piece, thus continuing until I want to raise no more queens. The same thing may be done with another frame, or two pieces of section comb may be used at the same time on each of the two center frames. This furnishes us eggs for queen-rearing. Now for the place to put them.

If the reader will recall or refer to the plan I gave last number, page 231, for the treatment of colonies that have swarmed, he will see that in one to five days after the issuing of a swarm, there is left on the old stand a hive with no queen and no unsealed brood, and only two or three brood-combs. I know of no better place to raise queen-cells, as we have a strong colony, just in the humor to raise them. Here, then, at the time of putting up the queen on top, we put our eggs in one of the frames below. I like Alley's plan of cutting up the comb with eggs into strips, and with a match killing the egg or larva in each alternate cell, only I use the match *before* cutting into strips, leaving every *third* cell in the row untouched. Suppose I had given the empty comb to my best queen June 1, and find no eggs on the 2d, but find some on the 3d. These *may* have been laid on the 2d, after I had looked, and I work on that basis. On the 5th, therefore, I give them to the queenless colony already mentioned, marking on the frames containing them, 17th, this being the date on which the first queen *may* hatch out, for I have found that queen-cells may hatch out in fifteen days from the laying of the egg, if in a very strong colony at the swarming season. Of course, my record-book and memorandum of work to be done keep me posted as to the time of taking away queen-cells, and on the 16th these frames with queen-cells are taken away, and the hive with the queen put down in its place. The hive containing the frames with queen-cells may be put in some new location, and will make an excellent nucleus to raise queens, as the bees will stay wherever they are put. If to be used to start a new colony, it is put on a stand of its own, and built up; but if intended to be used only to raise queens temporarily, and then be broken up, it is put on top of some established colony. All but one of the cells can, of course, be cut out as needed. As a precaution against raising some poor queens, it is well to examine the above about the 7th or 8th of June, and destroy all eggs and grubs not already started into queen cells, because the bees often let grubs remain till some days old, and then start them, and thus raise worthless queens. In the case above we may look for queens to be hatched possibly the 17th, or as late as the 21st or 22d. Thus I believe the best of queens may be raised by the honey-producer without in any way interfering with his crop.

You ask me, on page 231, what I do with the "two or three frames of comb contained elsewhere." They may be used for nuclei, as you suggest, or they may be used again, in the same way they have been, with some later-swarming colony, or used for extracting-combs.

As to the empty space you ask about in the lower hive, it seems they *ought* to build comb there, and at first I filled the space full of dummies; but later I have left the space empty, giving the bees free access to it, and in not one case in twenty is there any comb built, and then none to amount to any thing. I don't know why. I feared pollen in the surplus with so few brood-combs, but have found no trouble, even if only one brood-comb is left. The brood-combs, however, get quite a surplus of pollen.

You ask, "Will they work in a super without their queen, and so many of the brood-combs gone?" I am loth to believe they will work just as well, and yet I have not discovered any difference. In spite of that, there may be a difference, and I wish some one with more time and ability would settle the matter experimentally.

Many thanks for moving in the matter of figures appended to signatures. How I *would* like to see just one number of GLEANINGS with every signature thus embellished! C. C. MILLER, 172—241.

Marengo, Ill., April 3, 1884.

I agree with you, friend M., that we might afford to pay a very big price indeed for queens, if we could be sure to get all of them as good as the best we have now; but I do not believe it can be done. But there is certainly no one thing of more import than to be able to get good queens in every hive in a good-sized apiary. Raising each year from the colony containing our best, I presume will be our best plan; that is, carefully note which colony gives the largest honey-crop, and get the eggs for queen-rearing from this colony. Your plan of keeping a colony from swarming by moving it frequently, is certainly very ingenious. The idea of saving all the returning bees when the colony is moved away was one we worked on some years ago. The illustration of our Simplicity hive, with the nucleus on a shelf supported by a grapevine-trellis, shows it. The only drawback we found was, that when queens were allowed to take their wedding-flight from this location, they were sometimes attracted by the humming of the large colony below, and got into the wrong place. I presume your idea in keeping egg-producing colonies thus weak is, that you may be able to take eggs any time, without any inconvenience. I do not really like your plan of cutting combs so much, although it has some advantages. Why not put a whole frame of comb in the middle of this colony, and when the queen has raised just a few eggs, remove it and put another in, and so on? I presume your objection would be, that it robs them of their freshly gathered pollen, for this is almost always put around eggs just laid; and if the combs are left a little too long, it may draw on the eggs and brood more than the colony could well stand. Your present article, taken in connection with the one before it, which you have alluded to, makes your plan of working quite a system, friend M.

HUBER'S WORKS.

"THE LANGSTROTH CLUB."

EDITOR GLEANINGS:—Every thing relating to Huber's works is of great interest, and should be stated with the utmost accuracy. I therefore read Mr. Viallon's communication with great care; but unless he has the book itself, or has actually handled it, so as to *know* that whereof he affirms, I should doubt the statement that the "Nouvelles Observations" were published in 1792. The best authorities that I can find give 1792 as the date of the publication of "Lettres á Ch. Bonnet." It is, of course, proper to say that the edition of 1796 included the letters published in 1792, and that most of the book consists of letters to his friend Bonnet. But it was in 1796 that the book first took the title of "Nouvelles Observations," etc., and this is the edition which Mr. Benton is now translating. Judging by the translation which appears in GLEANINGS, this edition differs slightly from that of 1814, which is, I believe, the standard. Mr. Benton ought by all means to give up the 1796 edition, and take that of 1814; and as I have two copies of the text, one is very much at his service.

I am informed that there is a supplementary volume, which has been published within one or two decades. I do not happen to have it; but I expect, ere many weeks pass, to have in my possession a copy of every edition of Huber's works that has been issued either in French, English, or German.

As regards place of publication of the French editions: They seem to have been published simultaneously in Paris and Geneva; at least, this is true in regard to the edition of 1814.

I am obliged to Mr. Viallon for calling my attention to the fact, that the first English translation of Huber's works was published in 1806. My copy is the second edition, 1808. It was printed by the famous printer Alexander Smellie, and was published both in Edinburgh and London—in the latter city by the famous house of Longman, Hurst, Rees, & Orme. So far as I can find, after a good deal of research, this was the only English translation, for both the Edinburgh and London translations are really the same. The editions were: First, in 1806; second, in 1808; third, in 1821; another in 1841. I have not found any trace of any others.

A word in regard to Mr. Benton's translation: I have read it carefully, and compared it with the original. It is decidedly better than the old translation; and for terseness, lucidity, and closeness to the original, can scarcely be excelled. It is a pity, however, that he has used the word "fertile" instead of "fecund," or, better still, "fecundated." The word "mate," used by Benton, is decidedly to be preferred to the word used by the English translator; but "fertile" does not express what Huber means.

In reference to the plates: The engravings were no doubt on copper, and are probably worthless now. The plates in my copy of the translation are from copper. Remember, this was before the adoption of steel for engraving purposes (invented by Jacob Perkins, of Newburyport, Mass., about 1815), and before wood had come into general use on the continent, after its revival by Bewick. If the plates were steel, they can have been preserved only by a miracle. But it will be so easy to reproduce them in wood, with all the delicacy of the original, that this need give no concern.

Mr. Viallon objects to the simple word "Langstroth" as the name for the new book-club, and suggests "Langstroth Bee-Keepers' Club." But it is not a *bee-keepers' club*, neither is it a literary club. It is to be a *book-club*, established for the purpose of republishing such memoirs and works as are now inaccessible to students, and yet are of special value and interest. Who, of all the readers of this article, has read the original papers of Hunter, Schirach, Réaumur, Swammerdam, and others, upon whose works the principles of modern bee-keeping are based? If these could be placed within the reach of students it would be a grand thing. Now, the only way to accomplish this is through a society or club. The chemists joined together for a similar purpose, and formed "The Cavendish Society;" not "The Cavendish *Chemical* Society," mark you. The medical men have such a society—"The Sydenham Society"—not "The Sydenham *Medical* Society." Historians did the same, and we have "The Spottiswoode Society." If "The Langstroth Club," or "The Langstroth Society," is formed, every bee-keeper who can read will know what it means. It will not be the first club in this country, however; for since I suggested the formation of a "Langstroth Club," a "Grolier Club" has been formed. This is named after Grolier, a famous book-binder, and is devoted to books and papers on book-binding and kindred arts.

Mr. Viallon will observe, that the edition of 1814 is called, on its title-page, the *second* edition of "Nouvelles Observations," etc.; not so the edition of 1796, which must, therefore, have been the *first* of that title. JOHN PHIN.

Cedar Brae, N. J., April, 1884.

Thanks, friend Phin, for the many items of interest which you have woven into your article. In regard to the date of the publication of the "Nouvelles Observations," we have here an English edition printed in 1841, wherein the translator says: "The publication of his observations took place in 1792, under the title of 'Nouvelles Observations,'" etc.; and further, that *another* edition was printed in 1796. This would seem to confirm what friend Viallon said. Friend Bliss, of Duarte, Cal., informs us that he has just imported a copy of Huber's works from France, and he copies the title-page in "the original tongue." Translated, it reads:—"New Observations on Bees, by Francis Huber. Second Edition, revised, corrected, and considerably enlarged. First Volume. Paris: J. J. Paschould, 22 Magazine Street. Geneva, the same. 1814." This is doubtless the edition you recommend for Mr. Benton's use.—In the last number of the *Conservateur des Abeilles*, friend Fournier gives the original introduction to Huber's works, which Mr. Benton translated; and on comparing the two, we must fully indorse all friend Phin says in regard to the admirable manner in which the translation has been done. But best of all, friend F. also gives us a fine picture of the venerable Huber. We hope some day to procure this cut for the benefit and pleasure of our readers. Friend F. errs in putting the date of Huber's death at 1832. He died Dec. 22, 1831.

FOUL BROOD.

AN ANSWER TO A QUERY BY FRIEND BOGGS, ON PAGE 81.

HAVING had considerable experience with foul brood in Germany, years ago, and nobody responding to your article and questions on page 81, regarding the same, perhaps I can advise you some in the matter. It will be a comfort for you to hear that, although the colony your bees robbed had real foul brood, your bees will likely escape the disease when it was so late in the fall they had ceased breeding, and the stolen honey (of which there was likely not much) carried in the lower part of the combs for immediate use, will have all been consumed long before brood-rearing is started again. You should not, however, depend on your good chances, but treat them as sick until they are all proved sound, which is to your interest, as well as that of your neighbor bee-keepers; neither should you sell any bees.

As the time is at hand now to look over your bees (if you have not yet done so), in order to keep any affected ones from the rest, each colony should be treated and kept strictly separate; exchange no hives nor combs. By all means avoid robbing; open them only near sunset or early morning, or in quite cloudy weather. In looking for affected cells, take out the center frames, where the queen is supposed to lay first; and where by this time large sheets of brood are hatching. It is in these that an inexperienced person can best detect it. If in or about the middle of such hatched sheets one or more scattered cells remain closed, look for them, and see; if their covers are caved in, with a small opening in the center, there is foul or failing brood of some kind, if not the worst. You will not likely find any old enough to have turned to brown jelly as yet. If, on the contrary, no such described cells are found, nor in 10 or 20 days after (at which time they should be looked over again), your bees are likely all right, and an expert with bees and the working of foul brood would have now settled his mind about it. But as you claim to be one of the A B C class, I would, besides the above, adopt a more sure and simple proof, which costs no extra time, and the bees prosper all the same, if they are sound.

After you have proceeded as above, you can add empty combs or foundation to strong colonies when needed, until they have eight, when you should give them no more. You will thus compel all your strong colonies to swarm early naturally, which is a sure proof of their health, and you can then do with them as you like. If any are too weak to swarm, keep them and their surplus separate; and in the fall, after breeding is over, and when you prepare for winter, look all carefully over for any remaining cells, as every bee-keeper should do, and as we always did.

I do not consider it necessary here to describe the way you can best get rid of it, in case you should be so unfortunate as to discover foul brood among your bees, as friend G. W. House not long ago described in GLEANINGS, if I am correct; if not, I will, if you need and desire it. If you can, please find out whether the bees in question surely had foul brood; and, if possible, where and how it originated.

Philadelphia, Pa. C. H. LUTTGENS.

A SPECIALIST.

A MEDLEY OF THOUGHTS FROM FRIEND MARVIN.

MESSRS. Langstroth, Quinby, Heddon, and Root, are no more specialists than some of our would-be beginners. The capacity of keeper, with locality and other fitting circumstances, will produce the entire specialist. The times and conditions are at hand in many locations, and lack but one, or at most two points, to produce them in others. How are they made? The man who *has to sell* his surplus honey is not a specialist. The two who used to spend their winters in social discourse on their specialty, were nearing the point. One of them used to sell surplus bees; now, by doubling and other ways, he stops the produce of new bee-keepers. We should like Mr. Q. to make sections; R. to publish papers; D., fdn.; G., presses. I will raise honey as I have done for thirty years, and improve the bees that gather it, so as not to be a "specialist." Uncle Sam has many acres unoccupied; a keeper places stock enough to take the feed going to waste on the field. Is it policy to place too many on the same field, or go beyond the unoccupied place? The fittest will survive. Who succeed best? Is it always the specialist?

Mr. Langstroth was a good inventor, but too modest to be a good salesman, as was Mr. Otis—who was a *specialist* who has done more in his time to introduce the use of the movable principle than all others combined. How many points do the above parties lack of being specialists? The humane society of this State will not allow the misuse of stock, by starving or otherwise. I therefore advise not to run the risk, but "go west," as others have, who could not compete. Is it best to advise the thirty bee-keepers who used to try to keep bees in this place, to go in again, and ruin or lose as they did, and do now in other places? If Mr. P. wants to show how easily he can succeed, let him come in my range, and fail, as one of us is sure to do; or let him earn or buy the range or route, as other trades do; i. e., the milk routes; start fair, and lose less.

Wanted, an apprentice to learn to be a "*specialist*." J. M. MARVIN.

St. Charles, Ill., Mar. 28, 1884.

Friend M., we are much obliged for your suggestions, even though they are dropped in a little abruptly, some of them. But we should be glad indeed to have you tell us something about your yield of honey during the past season, and how you secured it. You strike one point there that ought to be considered. The beginner would not be likely to succeed in your immediate neighborhood. It is just so with us. Our 400 or 500 colonies during the height of honey harvest cover our fields so well that those who try bee culture within a mile of our apiary are apt to stand a rather poor chance. On this account I believe most of them have moved away or given it up.

THE INDIANA BEE-KEEPERS' ASSOCIATION.

WE BE BRETHREN.

I HAVE waited for some one to send you a report of our very interesting meeting held in Indianapolis, Jan. 15 and 16; but as nothing has yet appeared in GLEANINGS in regard to that convention, I beg for a little space, just to tell your readers that our fifth annual convention was well attended, from 75 to 100 being in attendance, the most of whom are members. The discussions were lively, and generally of interest to all present; and although, as usual, there was a difference of opinion on some points, yet the tone of the discussions was in the spirit of "We be brethren." If any other spirit prevailed, I failed to discover it.

On the afternoon of the second day we had an address by Gov. Porter, who, for the past three or four years, has favored the meetings by his presence. Perhaps a "new departure" was the election of Mrs. Robbins, of Indianapolis, for president. As a body of busy "workers," why not have a "queen" to rule us? C. F. Muth, of Cincinnati, was there, as he always is, and he never fails to come with valuable information, and just such advice as will benefit all progressive bee-keepers. In marketing their honey crop, our Indiana producers have learned, and are practicing one very important point; that is, to sell their honey as near home as possible, putting it on sale in the towns and cities around them; and it is astonishing what an amount is sold in that way. Statistics gathered by the assessors show the number of colonies in this State one year ago to have been 78,000; this year will show a very large increase. The entire proceedings of our convention will be published in pamphlet form, and you will no doubt receive a copy from our worthy secretary, who is doing much to keep up the interests of the association.

And now, Brother Root, I want to ask you in time,

to meet with us next winter; and I hereby earnestly request that you arrange matters so that you can be with us, if possible, if we are spared to see that time, and we promise you shall have no such experience as you had at the Columbus Convention. See page 88. JONAS SCHOLL.

Lyon's Station, Ind., March 18, 1884.

Friend S., your report is just to the point. Nothing would give me more pleasure than to meet with you; but I am afraid to make promises so long ahead. I suppose you mean by that last sentence, that you won't have intoxicating liquors sold, right under where the convention meets. I should suppose not, if you have a lady to preside. May God bless the new departure!

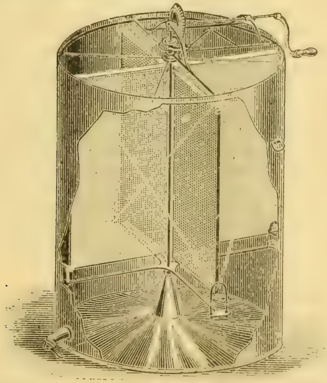
AUTOMATIC HONEY-EXTRACTOR.

We send you a cut to-day of our automatic honey-extractor. You may copy the description of it from the *A. B. J.* for April 2. G. W. STANLEY & BRO.

Wyoming, N. Y., April, 1884.

We give a description of the extractor as directed, as follows:

I would like to describe my honey-extractor, which not only takes the honey from four combs at once, but also reverses or changes sides with the combs, after one side has been extracted entirely, by reversing the motion of the crank. The comb-baskets, or pockets to hold the combs, are made of wire cloth, large enough to contain the size of the comb used, with sufficient space inside so that the combs may be conveniently placed in the comb-baskets, without injury to the combs.



A HONEY-EXTRACTOR TO REVERSE THE COMBS WHEN THE MOTION IS REVERSED.

As the machine stands at rest, the comb-baskets, hanging from the outside of the reel, point directly toward the center. The top of the reel is made by an iron cross attached to a hoop that will just revolve inside the can. Midway between where the arms of the cross are attached to the hoop, are fastened four small metal hooks, to support the four comb-baskets. The bottom of the reel is made with a cross, like the top, with the exception of having a cross-piece at the end of each arm. Two holes are drilled through these cross-pieces near the ends, three inches apart, and through these holes are passed the two rods of an arch, which rises three inches above the cross-piece. A vertical rod passes through the two crosses at the center. The pinion to connect with the cog-gear wheel at the top is placed near the top of the rod with the end of the rod running through the pinion and into a bearing in the casting that forms one of the bearings for the crank shaft. The bottom of the vertical rod rests on a cross-bearing at the bottom of the can. The lower cross is fastened to the vertical shaft, by means of a set screw; after which the upper cross is turned, so that the hooks come directly above the center of the arches at the bottom of the reel; the top cross is now secured to the vertical shaft by another set-screw.

To make every thing secure, and also to form the sides of the reel for the comb-baskets to swing against, we provide as follows: Take a strong galvanized rod, and fasten one end to the hook at the top of the corner of No. 1, and the other end to the bottom of corner No. 2; now take another rod and run from the top of corner No. 2 to the bottom of corner No. 1; fasten securely at the ends, and at the center where the two rods cross. When all sides are provided for in this way, the reel is complete.

The comb-baskets are made to slip on to the hook at the top, and at the bottom they have a double crotch that fits the arch at the lower corner.

As the extractor stands at rest, the comb-baskets all point toward the center, and the crotches rest squarely against the rods of the arch at the bottom corner.

As the reel begins to turn, the comb-baskets are all thrown off the vertical center, and all pass around in one direction, resting on one rod of the arch, and take their place against the sides of the reel.

As the comb-baskets pass around to the sides of the reel, the edge that hung next to the center will be carried upward about one inch; hence, as soon as the motion stops, the weight of the combs and baskets carries them back again, pointing toward the center. By reversing the motion, the comb-baskets are carried around in the opposite direction, and the honey is thrown from the other side of the combs. By applying the "brake" to the pulley near the upper end of the rod, the motion is again stopped, and the combs again swing back, pointing toward the center, and the combs are removed.

In order to make the action of the comb-baskets more rapid, we attach one end of a small coil spring to the bottom of the comb-basket, and the other end to the rod of the arch on the same side. This holds the bottoms of the comb-baskets in place, and aids in bringing them back to the center more quickly, so that they will be ready to remove as soon as the motion stops. The extractor will work well without the springs, but time will be saved by using them.

The above device for reversing the combs is certainly quite ingenious, friends Stanley & Bro.; but I hope you will excuse me if I suggest some of the objections that occur to me. While I am about it, perhaps it may be well to say, that our columns are always open to descriptions of new inventions, implements, etc.; and where the articles possess merit, I am quite willing their owners insert advertisements in the same issue; or they may give prices in the reading columns, if they choose. But if they use our columns for this purpose, they must accord to myself or any of our readers the right of commenting on these improved implements, and pointing out the difficulties, or such difficulties as suggest themselves to us. This, it seems to me, is no more than fair, in view of the fact that a great crowd of beginners in bee culture are looking on and are oftentimes ready to adopt every thing prominently noticed. It is always best to be a little careful in adopting new things; and therefore new inventions, as a rule, have to go through this ordeal of public criticism. If they possess sufficient merit to bring them into public favor in spite of such criticism as they may receive, well and good. If the sale of them is hindered by what may be brought out, the proprietors will have to bear it. I make this little preface right here, because owners of new things have so many times felt hurt at what I thought best to say by way of comment.

The automatic extractor shown above is the most ingenious thing of the kind that has ever come under my notice, although I have not seen a finished machine; and although the engraving is quite defective in many points, so far as showing just how the machine is to be made, still it enables us to understand it fully. The great objection to this machine—in fact, all machines I have ever seen, for reversing the combs inside of the extractor, is the great size and weight of them, compared with the machines already in use; this great size and weight involves a corresponding expense. In the above machine each comb must have room to hang between the center-shaft and the outside of the can. To do this, and have it take all sizes of combs in common use, the extractor will need to be something like 2½ feet across the top. To revolve so large a reel, capable of holding four combs,correspondingly heavy gearing must be used; and the power required to get so heavy a frame in motion, and stop it quickly, will be considerable. I should like to hear from some one who has purchased one of these machines, and tried it in actual use. All arrangements of the kind, so far as I know, have been, after a little time, discarded; and if this is a success, I am inclined to think its use will be mostly confined to specialists, or those who have quite large apiaries.

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HOW TO CURE A KICKING COW.

SOME EXCELLENT SUGGESTIONS BESIDES, IN REGARD TO THIS MATTER OF CRUELTY TO ANIMALS.

FROM the number of communications that have come in, in regard to this matter, we judge more people know *how* to use cows than practice what they do know. From among the number we select two—one from a veteran (or we should judge so), and also one from one of the juveniles. This will be all the space we can give to the subject.

In GLEANINGS, page 203, you ask, "How shall we cure a kicking cow?" For the cure to be permanent, you should educate the cow so that she would have no fear. There are different methods to obtain that result. One method would be, teach the cow to eat from your hand. Use a card on them, and once in a while give them something they love, from the hand, while carding them; scratch their head with your fingers, and afterward their neck and shoulders; teach them not to shrink from your touch, by passing your hand carefully over all parts of their body and legs. Teach them not to be afraid of a bag or a blanket, by hanging a rope or cord first across their back, then something larger, till you can pick up a blanket lying near them and throw it over them as you do a horse. Then take two pieces of cord about three feet long; hold the ends even, and make a knot on them about 2½ inches from the center, then make a knot on the longest ends, about five inches from the other knot, and then draw them tight; then take one end of the two cords, and pass each end once around one of the cow's hind legs above the ankle, and tie a good slip knot; then tie the other leg the same; now, very slowly and carefully, handle the cow's bag and legs till she is no longer afraid. Always remember, that a *naturally* vicious cow is aggressive, and uses nothing but her head in making an attack, unless she is frightened or hurt. All bad tricks, as a general thing, are caused by mismanagement, either at the time of their contracting them or afterward. Never strike an animal, nor hurt it in any way, while angry, if you can avoid it, and *never* in revenge for what they may do. It is to no one's credit to do so. It will not help the matter, neither is there any "*money*" in it. Be slow and very gentle in all your movements while it is required. In milking, you can not use too much care not to cause pain to the cow in any way. If there are any cracks on the teats, or the skin is more than usually tender, use extra care, and I should hope a cow so treated could in a short time be milked safely, as far as kicking is concerned.

I believe it is important in the management of animals of all kinds, to *feel good natured yourself*, if you want to be successful, and believe it is more or less disastrous to lose full control of the temper. One should always strive to give an animal some knowledge of what you punish it for. For example, a touch of the whip when you wish your horse to go faster will teach him to obey. So will it quiet a restive one, if he understands for what reason you strike him. But if he does not understand it, it will surely make him worse. I suppose a simple cord, instead of the hobbles wound around the leg would answer the same purpose after the first week or two.

ARNOLD WYMAN.

Montezuma, N. Y., March 17, 1884.

As Frank M. wants to know how to break a kicking cow, I will tell you how my pa did. He tied a rope around her body behind her front legs, and put a stick in it, and twisted it up so tight that the cow did not think of kicking. He did so for a week, and she has not kicked since.

Atwater, Ohio, April 7, 1884. CHARLEY GRATE.

You see, friends, the great secret of managing animals, as well as managing any thing in this world, is to first manage yourself. Friend Wyman hits it exactly when he says that the great secret is to feel good natured yourself, for you know good nature is contagious.

He that hath no rule over his own spirit is like a city that is broken down and without walls.—PROVERBS 25: 28.

He that overcometh, and keepeth my works unto the end, to him will I give power over the nations.—REV. 2: 26.

SENDING HONEY TO COMMISSION MEN.

A MATTER ON WHICH BEE-KEEPERS SHOULD BE THOROUGHLY POSTED.

BROTHER ROOT:—Mrs. Axtell was rightly informed by her lawyer. It is a reasonable thing. If a commission agent sells your goods he is a trustee for you, and merely holds the goods or proceeds as a bailee (as the law terms it), or simple custodian. If he sells the goods, and uses the money for other purposes, and does not hand it over to you on demand. he is guilty of "conversion," or embezzlement, which is a crime. If the creditor or principal accepts a note instead of the money, he makes it a simple debt, and settles the original claim, and removes the criminal part of the affair. If the note is sued for non-payment, the creditor gets a simple judgment, which is of no more value against a dishonest man than a note or a verbal promise to pay. I agree with you, that to go to law to collect debts is a questionable business, and at the best a losing affair. But to prosecute a thief is a public duty. Did not our gentle Savior make a whip, and drive the thieves out of the temple with it? and the law is the whip we must use to keep men honest (?) who would be rogues otherwise. And a commission agent who sells your goods and pockets your money is a thief in the eye of the law. Therefore, never take a note from a commission agent in payment (?) of a debt, due for goods sold. The rogues know what it means; and when the note is given, snap their fingers at you; but not one has been known to refuse to pay (here in New York) when a full settlement has been demanded by a lawyer. I am not a lawyer, but have had practical experience in getting money from such commission men.

Hackensack, N. J., March, 1884. H. STEWART.

Friend S., I quite agree with you in this matter. There is one other point not yet touched upon. It is this: Suppose a commission man makes a plea that he was obliged to sell honey for less than half what it was worth. In friend House's case they pretended they could not get even ten cents a pound for nice comb honey. I presume in such a case we could demand a statement of the sales made, and by investigation find out what amount of money was received. In the case we now have before us, the commission man had a way of selling out and losing his books every little while, so friend House informs me.

NUCLEUS METHOD OF INCREASE.

THE WAY FRIEND POPPLETON DOES IT.

MR. RUSSELL, of Wakeman, O., has requested me to describe in GLEANINGS the method I use in forming nuclei; and as the subject is a timely one, I will try to do as he wishes. I do not think that I have any thing new to say on this subject, but I may be of some help to those who have had little or no experience in working with nuclei.

I came to the conclusion several years ago, that there are but two methods of increase that I am satisfied with. Those are "natural swarming," and what is known as the "nucleus method." Which of these two methods is the better, depends altogether on our method of management. If I were raising comb honey, I think I should prefer natural swarming; that is, I should probably be forced to prefer it, as it is much easier for the comb-honey raiser to allow than to prevent natural swarming; but using large single-story hives, for the production of extracted honey only, compels me to rely on some other method of increase, if I wish any. I have tried nearly all the methods of dividing colonies that have been given in the books and papers, but have never yet found a way that was satisfactory.

Nearly if not all the ways of dividing colonies result in giving the old bees to one of the divisions, and the young bees to the other, thus destroying the normal condition of both divisions, and this usually has to be done during a flow of honey. The part having all the old bees has very little brood, and has to devote two or three weeks (usually during the best of the season) to brood-rearing instead of honey-gathering, while the other part has too few field-workers to be of much value as honey-gatherers. These objections would not be very serious ones in localities that enjoy a continual flow of honey for 3 or 4 months; but such localities are few and far between in this northern latitude.

The nucleus system of increase allows us to keep our colonies always in a strong, normal condition, ready to take full advantage of any flow of honey. We can also do the most of the labor of making and caring for the nuclei during intervals of more pressing work.

The great practical difficulty in making nuclei is to get a sufficient number of bees to remain with the nucleus during the first few days after it is formed. A perfect nucleus should be a miniature copy of a normal colony; that is, should contain a laying queen as soon as it is possible to give one, and a *proper proportion of old and young bees.* This last condition is the difficult one to obtain, and I know of no practical method of doing so, except by forming all nuclei from colonies kept at a distance of at least two or three miles from where they are to remain. I have practiced this way somewhat, and expect to do so almost altogether hereafter. Any one who has not tried it can hardly realize how much better such a nucleus is than the one formed by any method from a colony near by. However, as nearly all nuclei are necessarily made and kept in the same apiary with the parent stock, I will give the method which has given me the best satisfaction, and which of late I have used quite extensively.

I use altogether, long single-story hives, capable of holding any number of frames up to 25. During the season for making nuclei, these hives always have in them some combs that do not contain brood. I make all my nuclei by the use of standard frames, not using any smaller size especially for that purpose. Selecting the colony I wish to take a nucleus from, I place an empty hive near it, placing in it either one, two, or three frames of the oldest capped brood the colony contains, with all the adhering bees. I usually make it a point to see the old queen, so I can be sure she is where I want her. I then add to the nucleus hive, from the old one, as many combs with adhering bees as I have taken brood-combs. Fill the empty places in the old hive with empty combs; close up both hives, and remove the nucleus to the stand previously prepared, where it is to remain. I keep the nucleus hive closed up till the next morning, then open the entrance-blocks till only one bee can pass at a time; set a small board or shingle up in front of the entrance, and let them alone for a day or two, after which the empty combs (which have now become useless) can be removed, and a queen or queen-cell be introduced if necessary. The nucleus can now be used for rearing queens, or can be built up into a good colony, by occasionally inserting empty comb, foundation, or brood-combs from other colonies. The further a nucleus is removed from its parent colony, the more bees will remain with it. I rarely remove a nucleus less than four or five rods, and more than that if possible.

I believe this method I have detailed is all old, unless it may be the temporary giving to the nucleus as many empty combs with their adhering bees as I do brood-combs. Since using this method I am rarely troubled by too few bees remaining with the nucleus, but they are, of course, nearly all young bees.

Mr. Doolittle lately told how he forms his nuclei by covering a frame of hatching brood with wire cloth, and leaving it in the center of a populous colony; but it seems as though that must certainly be a much more troublesome method than the one I use, and gives poorer results, with the one exception of introducing the queen, which I do not think is anywhere near of sufficient importance to pay for the extra labor. O. O. POPPLETON.

Williamstown, Iowa, March 29, 1884.

Thanks, friend P. Your method differs but little from the one we practice, only we greatly prefer to have a comb containing a queen-cell nearly ready to hatch, when we start nucleus colonies. The bees on this comb, and, in fact, all belonging to the same hive, will stick pretty well, as a rule, to any comb containing a mature queen-cell. You know that friend Doolittle suggested taking the old queen along a day or two, to make the bees feel satisfied, and stick to their location. Putting a shingle before the hive, we have never practiced; but it may answer an excellent purpose by inducing the bees to pay more attention to places out of which they go. If a good many of the bees go off with the colony, there will usually be enough hatched by the time a young queen is ready for business, to make a pretty fair colony. "Neighbor H." practices carrying the bees about three miles from his River apiary to his Home apiary.

AN A B C SCHOLAR ASKS QUESTIONS.

HE FINDS SOME THINGS HE DOESN'T UNDERSTAND.

DON'T your A B C scholars bother you mightily? I believe the "little fellows" are generally a troublesome class. Well, I am at the foot in the A B C class, but I suppose that we shall have some more new scholars before long; and then, as I profit so much by the lessons I get from GLEANINGS and experience, I think I won't be at the foot much longer. For the present, however, I am going to presume that you, like all good teachers, sympathize with all fresh arrivals; and now, as I have secured your sympathy, I am going to ask you a few questions that I presume will appear so simple you will laugh at our ignorance. Before doing this, however, I want to tell you what I saw while watching some bees during a warm day in February. I had put some nice sugar on the alighting-board in front of two hives that I had bought and brought home in January, and after moistening with water I took my seat just in front of one of them, and was watching them sipping at the sugar, when, all of a sudden, two bees grasped each other and seemed to be engaged in a deadly conflict. This lasted only a second or two, when they released their grasp, one of them flying away, the other one remaining motionless near the outer edge of the alighting-board. Supposing that the one had been killed by a sting from the other, I thought no more about it until a few minutes later, when another bee that had walked away from where the group was feeding on the sugar, chanced to pass the one that had been slain in battle. Suddenly he stopped, turned around till he faced the motionless body of his comrade, and then commenced such a series of maneuvers around and against its inanimate body, that I supposed it was going to pitch the dead overboard. Shortly he was joined by another, and then another, and another, until there were six of them surrounding this apparently lifeless body, all of them engaged just as the first one had been; but to my surprise they would never allow it to be pushed near the edge of the alighting-board, although they kept it continually moving. Imagine my surprise to see this apparently lifeless bee, after being thus "manipulated" for a minute or two by its fellows, suddenly regain consciousness, take wing, and fly away. While meditating on what I just witnessed, I passed to the other hive, where I saw the same thing enacted again, with the exception that the motionless body of the bee was lying on the alighting-board when I first noticed it.

Now, is it any wonder that, when my A B C book arrived a few days after, I just turned right over to "R," to see if there was any thing in that book about "Resurrection." Won't some of you professors tell us something about it? I should probably have stated, that those manipulating never passed *over* the body of the inanimate, nor changed their relative positions, nor turned the body over, but kept it continually moving. Now for my questions:

1. Is there any thing to be gained by feeding bees that have plenty of honey in their hives, throughout the winter?

2. If you had a 2-story Simplicity hive, and there should be half of the top frames full of honey left, after the winter is over, would you remove this surplus, say the 1st of April, or would it lessen the chances of an increase by natural swarming?

3. If I should set one Simplicity hive over another, thus making a two-story hive, would it not be well enough to make an entrance for the bees at the bottom of the top story, or would it give more light to the inside of the hive than the bees would appreciate?

If you will please answer through GLEANINGS, you will confer a great favor on a new beginner.

Sparta, Miss. L. HALL.

Friend H., I should say that your imagination supplied a little, perhaps, in the account of the adventures you mention having seen. You gave the bees a feed, and this, with the warm weather and outdoor air, stirred them up into a feeling of general rejoicing. The buzzing around each other, and other antics, was simply their way of manifesting their satisfaction. I do not think there was any stinging about it. In regard to the bee that appeared to be dead, I do not know how to explain it, unless it was one that had got chilled so as to be in a dormant state, and perhaps got pulled out on the honey-board, and the warm sun revived him, and his comrades gave him a lick of the warm sugar they had just been feasting on, and that "brought him to." Bees get well very suddenly under the influence of sunshine and feed. You saw the same maneuvers at different hives, because the warm weather had called them out.

IS IT AN ADVANTAGE TO FEED, WHERE STOCK HAVE PLENTY OF FEED?

In regard to your question, I should say there was something to be gained by feeding bees, even when they have a good supply. It must be done judiciously, however. During a dearth of pasture in the fall, regular feeding will induce raising bees largely, and even swarming may be induced in this way. What is called stimulative feeding in the spring will often cause the bees to raise brood to such an extent that the amount of honey gathered may be doubled or trebled.

In regard to your second question, it is very bad policy to leave such an amount of stores in the hives, that full combs of honey will remain in April. It should have been extracted the fall before, or it can be used for stimulating stocks by shaving off the caps of the cells. This will have about the same effect as feeding. Taking it away would not lessen the chances of swarming; but if given to them one comb at a time, uncapped, as I have mentioned, it would induce swarming.

SHOULD THERE BE AN ENTRANCE TO THE UPPER STORY?

One entrance is sufficient for any two-story hive, and I believe it is thought better to use the entrance at the lower part of the lower story. If you make an entrance in the upper story it allows the warm air to escape, and the bees will soon abandon the entrance and in time the combs of the lower story.

FRIEND CHURCHILL'S IDEAS IN REGARD TO GETTING COMB HONEY.

ALSO SOME SUGGESTIONS ABOUT GETTING BEES STARTED IN SECTION BOXES.

FRIEND ROOT:—As there has been so much said about the trouble of getting bees into the boxes, I will give you my mode, which I discovered last season, which pleases me more than a little.. I begin early stimulative feeding; and as they grow in numbers I add frames of comb or fdn. till just 9 fill an L. hive, which will space them, say, ⅞ or more, which is more than natural. Now being thus, there is room for lots of bees—more than is actually needed; but they are just what we want, you will see. As the brood gains, and the top of frames are bulged and crowded with honey, which is coming in freely, I shake bees from the combs and trim the honey off even with the frames. The first frame is set ⅜ in. from side of hive, and others are set just ½ inch apart; the last one has a division-board (a thin one) set ⅜ from it. I put on a case one section narrower than the regular size, and only half of the boxes in this, which I set at the back end. The open space is filled with cloths. The trimmings are mashed, and the same amount of warm water added, which is all strained through a cloth, and placed on top of the sections, in a feeder. I cover warmly, and on this I put a leaf or chaff cushion, so as to keep warm during cold nights, and cool during warm days. Now, the combs being closed up to about the natural space, and the honey being above the sections, the bees have a very friendly invitation to accept them; and there being but a small number of boxes, they will take to them far better than in a large open crate. When the honey is all taken down, take off feeder, and keep on the packing; and when the two sets of boxes are well started, I put one set forward, and place between a set of boxes filled with foundation, and so on; and when they get strong enough, I lift this and set a crate under.

"But," says one, "why do you use so few boxes?" My friend, have you ever measured a regular 28-lb. case? If so, you have found it will hold 16 quarts, or one-half bushel. Now, where are there bees enough in one swarm (in early honey-flow) to fill this and care for the brood, and do smart work in the field? I find, also, that bees do far better in boxes in a chaff hive than a single-walled, unless a woolen cloth is tacked on the edge of one story, so that no air can creep in about the case. Then they are much better, to be heaped together; for if left open, and a full case is given at once, the bees are driven into the center, and many combs are drawn on one side, and are apt to be crooked thereby, and many outside boxes are rejected entirely.

I find, also, that unless the edge of the lower glass edge is chamfered down to nearly an edge, that the bees can not get into the case from the side of hive, which is just so much loss. Just set on a case, Bro. R., and see where we have had our eyes shut. I now chamfer every one, and I also set the boxes away from the side of crate ⅛ inch, so the bees can pass up and down freely, on outside sections; and I saw enough last season to satisfy me that 1⅞ sections are too wide, and shall use none but 1½x4¼x4¼, regardless of weight.

The above ideas are from careful study and experiments; and if they are of any use to any of the happy readers of GLEANINGS, they are free.

As to section fdn., I find that it should come within ¼ inch of bottom, and ⅛ inch of side of boxes, and that a high side-wall makes a very great difference in regard to acceptance by the bees, and I know that we can not be too careful in fastening it in the center of sections, and leaving it straight and even. Some say I am too particular; but I don't see it. The little things are what tell, as the bee said when he took the lion in the nose. I often think of your careful way and watchfulness, and feel that you are entitled to great rewards for your constant labor and care. I also believe that unventilated sleeping-rooms, and tea and tobacco, are ruining thousands of our friends. Give me good air, and lots of hot water, inside and out, and the medicine may go to grass, in company with tea, rum, and tobacco.

E. P. CHURCHILL.

North Auburn, Me., March, 1884.

Friend C., I am hardly prepared to indorse your plan of having your brood-combs further apart than the bees would naturally build them; still, it may be an advantage. When bees are rearing brood largely in spring, you will notice they almost always have a solid frame of pollen right opposite a frame containing young larvæ; and as this pollen is used very rapidly to feed the young larvæ, it seems to me it ought to be within reaching distance. Suppose somebody were to move your plate two feet away from you while you are eating your dinner, would it not take you some time to reach this extra distance for every mouthful? While I am on this subject, I want to mention that swapping combs so as to put this pollen away from the brood it is intended to feed, is, in my opinion, an awful big blunder; and yet beginners often do this, and may be some older ones do the same thing. Your idea in regard to starting bees under a few sections, to commence with, is a good one. I also approve of your plan of packing around the honey-boxes with cloths or chaff cushions. I have often thought of a case holding about one-half the number of sections to start in with, then using two cases side by side to cover the whole top of the side after they get well started. Such cases would be handy for retailers as well. In regard to making provision for bees to get up along the outside row of sections, I do not feel so sure it is so absolutely necessary. I think we agree pretty well on pure air and pure water.

SPREADING COMBS INTELLIGENTLY.

I do not intend to convey the idea by the above, that I would condemn spreading the brood, only that it should be done intelligently. When the colony gets strong, and the queen begins to be cramped for room, putting a nice straight worker comb, or even a sheet of fdn., in the center of the brood-nest, may work wonders, for the queen will fill this new comb right up at once, almost solid with eggs. These larvæ will hatch almost at once, and the bees can attend to them with greater economy than is often possible with the natural order of things. When the comb is first put in, of course it will make a little disturbance; but by the time the larvæ are ready to be fed they will have pollen placed conveniently alongside of this comb; and when this one frame of brood is hatched out it will make a pretty fair swarm.

WINTERING BEES WITH A THREE OR FOUR INCH SPACE UNDER THE COMBS.

SOME FACTS FROM EXPERIENCE, BY H. L. BOSS.

I COMMENCED the spring with two swarms—one Italian, one hybrid; increased to 9 by natural swarming. I had 150 lbs. in 1-lb. sections. The season was any thing but favorable, so wet and cold, and then so dry. I put them up in November; got dry-goods boxes; got some 2x2 scantling, sawed the length and breadth of hive, laid them in the bottom of my boxes, and then set the hives on them. This gave them two inches from the bottom, the full size of hive for ventilation, cutting a crevice through the box so they could pass out and in; had no upward ventilation. I filled up the box with dry forest-leaves.

We have had steady sleighing for 70 days; to-day the snow is going away, and on examination I find all my bees in first-class condition. I think one quart would cover the loss of all that have died. We had some weather at 28° below zero. Many bee-men in these parts have lost heavily, some losing nearly all. One man put up in chaff-packed boxes, 46 swarms; he tells me he will lose much more than half. Another had a hundred, and will lose about 75, and so on. Those that did not pack have lost very heavily.

My experience has been, keep your bees quite dry and warm, with room under for ventilation, and they come out as well as any. I think from present observation, bees will be fearfully thinned out in these parts. H. L. BOSS.

Caro, Tuscola Co., Mich., March, 1884.

Friend B., this subject has been much talked about, and I believe a great deal experimented on. I believe favorable results have almost always followed where a considerable space has been left below the combs. With the Simplicity hive we might put an empty story under the brood-nest, but perhaps there might be *too* much room, and hence too cold. With a chaff hive we could easily raise the frames up a couple of inches, and leave the entrance open full width, and it would prevent choking up around the frames and entrance with dead bees.

HOW AN A B C SCHOLAR HAS PROGRESSED.

SIX YEARS IN TEXAS.

I HAVE been a reader of GLEANINGS for a little over a year, and think I have gained much useful information from the articles of your many able contributors, and also from the A B C book. While I have enjoyed the writings of friends Hutchinson, Heddon, Jones, Langstroth, and Miller, as well as many of the lesser lights, very much, I must say that friend Doolittle has a happy way of making things plain that render his articles of especial value to an A B C scholar.

I commenced keeping bees in the spring of 1878, with one weak colony, which was a gift from a neighbor, and "Quinby's Mysteries of Bee-keeping," old edition, as my guide. I just exactly doubled my stock every year until 1883, after deducting all losses. Last year I got only 10 swarms from 32 colonies. I have sold honey every year except one, 1879, and have always kept plenty for family use. In 1882 I sold 1000 lbs. from a spring start of 14, and increased to 37. In 1883 I sold about the same amount from a spring start of 32, and increased to 42. Until last year I made all of my own hives and frames, and my bees have cost me very little. With the exception of the year 1879, they have paid very well for the labor given them.

I am aware that the above report will appear like very "small potatoes" by the side of some of the "whoppers" that I have seen in GLEANINGS; but as some of the friends are particularly anxious that the dark side should appear, as well as the bright, I thought it was a good time for me to come in, as I did not have any thing extraordinary to report. Now that I have got into so good company, I hope to have a good report too, at the end of this season. It is to be hoped, at any rate, that the late discussions on the "dark side of bee-keeping" will have the effect of making the friends send in all their reports, both good and bad. J. P. CONNELL.

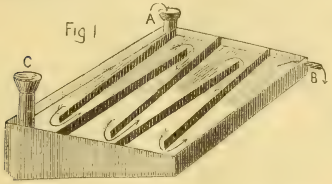
Hanover, Hill Co., Texas, March 21, 1884.

EXTRACTING HONEY

While it is Thin and Unripe, and Evaporating it by Artificial Means.

FRIEND MARTIN TELLS US HOW TO MAKE THE APPARATUS.

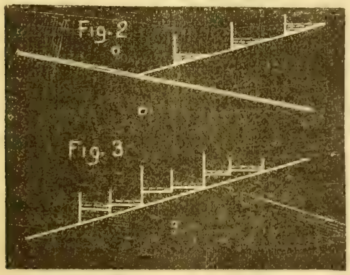
BRO. ROOT:—You have doubtless seen, from time to time, notices of Mr. L. C. Root's honey-evaporator, especially in the *Apiculturist*, and in the proceedings of the N. E. N. Y. B. K. A., as published by Mr. Locke. As there has been some inquiry about this apparatus, and not much definite information given, I shall take the liberty to give a description of it as I saw it at the residence of Mr. Root. It is a simple apparatus (shown in this sketch), made of tin, with an inclined top. Upon this surface are tin strips to guide the honey in a zigzag course down the incline, as shown by the arrows. The *new idea* is to extract the honey, or nectar, before it is capped over, or just as fast as the bees collect it. In this thin, unripe condition, it is run over the evaporator, entering the tube A, and running out at B, ripened.



APPARATUS FOR EVAPORATING THIN HONEY.

If I understand Mr. Root, he does not wish to get a *greater* quantity of honey, so much as he does a *better quality*. Honey can be evaporated down to any degree of thickness, even to hard candy, I think, with this evaporator.

The tube C is used to fill the tank with water; a thermometer is also placed in this tube, to graduate the temperature; the heat is maintained with an oil-stove.



FRIEND MARTIN'S SUGGESTED IMPROVEMENT.

It will be noticed, that the shape of guides causes the honey to run down the incline in a thick stream, as shown in Fig. 2. The evaporator would be more rapid and even, I think, if it were run down in a thin sheet, giving more surface.

I would suggest this improvement, and shall use one constructed on the plan of Fig. 3. We hope many bee-keepers will try Mr. Root's plan during the coming season; for in many experiments we can come to a definite conclusion as to its value.

JOHN M. MARTIN.

Hartford, N. Y., March, 1884.

Many thanks, friend M., for your description. No doubt much honey that is taken out unfit for market might be, with this machine, worked over into a nice article, especially if it is so treated as soon as it is taken from the hives. I confess, however, that without having had any practical experience in the matter, I should be inclined to say the bees could do it cheaper than it could be done by the above apparatus, although I may be mistaken here. I have ripened thin honey by placing it on shallow pans, exposed to the open air, and I know it changes it very materially; and if the weather is dry and warm, it does not take very long either.

FROM THE SAND AND SAWDUST REGION.

A VISIT TO SOME OF THE BEE-KEEPERS ALONG LAKE MICHIGAN.

DEAR GLEANINGS:—Thinking a few notes by the way might be of interest to your readers, I inclose them. From the growing city of Muskegon, abounding in sand and sawdust, the greatest lumber-producing center in Michigan, if not in the entire North-west, I took the C. & W. M, R. R., March 7, arriving at Hart, the capital of Oceana county, at 10 A.M. It is a pleasant little village, located among gently rolling hills and vales in a fine farming country, timbered with maple, beach, elm, and linden. What a fine country for bee-keeping! was my first thought; and not long after, I was sitting by the pleasant fireside of friend Markham, listening to his terse and spicy encomiums upon the "busy bee." Mr. M. is a staunch believer in cellar wintering, and well he may be; for success has always attended his methods. A small farm in the outskirts of the town, planted to orchards of plum, pear, peach, and apple, affords him a comfortable living, while his bees are bringing in a nice surplus of revenue.

My next visit was to the apiary of Henry Palmer, a mile east of the village. Mr. P. is largely interested in bees, and has, in connection, a supply department of no small dimensions. A visit to the winter quarters of the "blessed bees" showed me 120 colonies, stowed snugly away in an outdoor cellar, in a side hill, where the temperature is kept at 48° to 54°. The entrance is left fully open, as in summer, while the honey-board is pushed back about two inches. Here the bees seemed to cluster, showing their appreciation of the arrangement made for ventilation. Mr. P. has had wonderful success with this plan of wintering, which is substantially the "Adam Grimm" method, I believe. Mr. P.'s bees were purchased directly from the great bee-master of Wisconsin, and from his own lips Mr. P. learned many valuable lessons in the science of bee culture. Mr. P. puts no faith in the utility of early or cleansing flights, and his bees will remain close prisoners till the flowers of early May proclaim that spring has come to stay.

The following day, friends Markham and Palmer, and myself, rode four miles to visit Mr. Stanhope, one of the most successful fruit and honey producers of this section. His bees were snugly stored in cellar; but we missed the anticipated visit, as Mr. S. was absent, and we were obliged regretfully to depart without seeing him.

I left Hart and my hospitable friends behind, quite inclined to believe a warm cellar the normal winter home of the bee — at least, in the northern portions of our country.

At Fremont I had the pleasure of meeting Mr. George E. Hilton busily nailing his favorite double-walled *dry sawdust* packed hives, in a shop at the rear of his apiary, a pleasant view of which the readers of GLEANINGS have seen. Friend H. is an enthusiastic, as well as a practical and successful bee-keeper, as his neat apiary of 70 colonies, snug and warm in winter hives, fully attests. A peep into several of these showed fine strong colonies, bees bright and healthy, with plenty of surplus stores.

As we walked to the depot the following morning after bidding my hospitable entertainers good-by, Mr. P. showed me two nice new uncapping-cans, just received from Medina, Ohio. They were certainly beautiful, as well as convenient, and I am sure will form a portion of my own outfit as soon as circumstances will allow me to indulge my inclination.

Now, Mr. Editor, to sum up: Upon leaving my cellar-wintering friends, I was decidedly converted to their side; but the visit to friend H. has again unsettled me, and I am still open to conviction as to the best methods of wintering bees.

Mt. Bliss, Mich., Mar. 17, 1884. L. S. BENHAM.

Friend B., I am glad of your report on one account; and that is, I wanted to know how our friend Henry Palmer liked his wintering cellar. I visited him the first year he built it, and I have asked him for a report, but he does not seem to like to write for bee-journals. If all had so nice a place as he has to make a cellar, I do not know but I might go stronger on cellar wintering. Right at the side of his apiary is a sandy knoll, and the sand of Michigan is a little nicer than that in any other part of the world I have seen. It is perfectly dry and nice and clean, and our friend gets a frost-proof repository without any of the dampness and mustiness we usually have in our clay soils.

CALIFORNIA.

ITS PRESENT PROSPECT FOR A GOOD HONEY YIELD.

UP to the 27th of Jan. we had had only five inches of rain, more than half our rainy season then being past. Many of our people began to dread another dry season; but on the 27th it commenced raining, and since that has given us 15 inches. This is enough to make crops almost a certainty for the coming season; but you may be sure the mails have been any thing but a certainty for the past three weeks.

To-day, the 18th, the rains amounted to a real flood. Ventura Creek went over its banks two miles above our town, and it was a mixture of anxiety and amusement to see it tear away our fences, cut off communication with the hills, some men carrying their women to higher grounds, every one splashing through the water to catch such things as were about to be washed away. I have large quantities of drift wood in my orchard and garden, but my 100-bbl. tank for rain water sat on my wagon close by my new house, not being quite able to get it under the spout in time for the nice rain water.

San Buenaventura, Cal., Feb., '84. R. WILKIN.

STILL LATER, AND WORSE.

Since writing you last, I find that our flood of January 17th was much more destructive than we had thought. Many bees were washed away. My neighbor McKee says he saw his 140 hives all start down stream in five minutes' time. The road to my Matilija apiary of 300 hives, has been so destroyed, and the cañon filled up that I have yet been unable to get to where it stood. It is generally supposed to be all washed into the ocean; and if not, that it will cost $2000 to make a road to it.

At my Sespe apiary, pictured in your A B C book, it washed away my barn with its contents, a part of the dwelling-house and its contents, the two sides out of my honey-house and shop, taking cans and tonnage for perhaps 40,000 lbs. of honey, many tools, and things stored away, including 600 lbs. of beeswax and the foundation-mill for the L.-S. frame, which I got of you, being the first one of the kind introduced to this country; about $700 loss there. It came close enough to take only two hives of bees from that apiary, leaving about 700, and now if it were not for the great confusion in swarming, I would leave the whole lot there this season, to test how so many bees would do in one place, with 1200 hives more within two or three miles of them.

But with all this loss of, say, $2700, I would take it every year for the sake of the rain, rather than take chances on no rain. It is remarkable, the force of a mountain stream here like the Sespe, 20 feet deep, dashing worse than the cataract of Niagara. Here it carried a rock that two hundred horses could not haul, and dropped it in front of my apiary.

San Buenaventura, Cal., Mar. 3, '84. R. WILKIN.

PEA-VINE, OR MAMMOTH RED CLOVER.

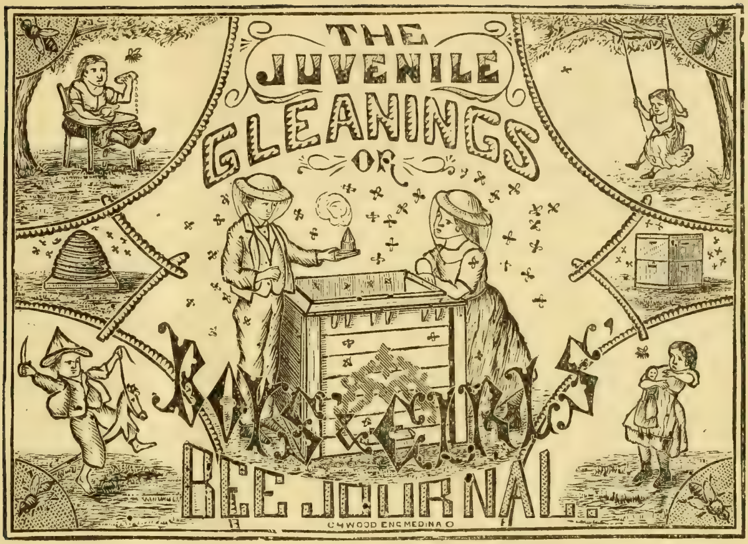
A DISCOURAGING WORD FOR IT, BUT A GOOD ONE FOR ALSIKE.

NOTICING your offer to send seed of the mammoth clover to all applicants, I thought (for the benefit of bee-keepers) I would give you my opinion of it, having grown both kinds quite extensively, for hay and pasture, also for honey. I want no more of the mammoth. I think one acre of the alsike for hay is worth 2 or 2½ of the former; for pasture, 1½ or 2 of the former; for honey, 5 of the former. Perhaps results are different in different localities. Of course, friend Root, it is none of my business; but permit me to suggest, that you offer the alsike the same as the mammoth, free, in small packages, and confer a lasting benefit on bee-keepers and farmers, as well as yours truly,

N. E. DOANE, 38—60.

Pipestone, Mich., April 2, 1884.

Friend D., the reason we offered samples of the pea-vine free, is because there is such a diversity of opinion in regard to its value for honey, while with alsike there is no diversity. It has been suggested, that the mammoth in one locality is not the same as in another; therefore we send out these trial packages of seed. Recent articles seem to indicate that mammoth has some advantages over the alsike. It seems to me you are putting it pretty strongly in favor of the alsike, are you not? It *does* seem to be steadily growing in favor, which is good news to bee-keepers.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

WHO IS MY NEIGHBOR?—LUKE 10:29.

All the trees of the field shall clap their hands.—ISA. 55:12.

A LITTLE way from the "Home of the Honey-Bees" lives a neighbor, of whom I have spoken several times. He used to keep bees somewhat, but he has finally given it up. I sometimes laugh at him for having dropped them, for he always made them quite profitable. Well, this friend, some like myself, is given to hobbies; or, perhaps, a better way to express it would be to say that he takes hold of one subject at a time, and studies it and pursues it most vehemently. When he first commenced to study bees he wanted to see a straw beehive; and as no one around here had seen one, he determined to go to the Centennial at Philadelphia, mainly to see a straw beehive. Of late years he has been studying maple-trees and maple sugar. In fact, it was friend Clark who furnished the little maple-sugar cakes I have been selling you, and this year he had got so much taken up with the business that he rented another large sugar-bush besides his own, making in all about 700 maple sugar-trees, and then he bought one of the latest improved maple-sugar evaporators, and one day in March he told me that I had better come over and see his sugar-camp. I went over myself, and was so well pleased with the surroundings that I told the hands about it at the noon service, and finally we all went over, nearly a hundred of us. As we came into the woods the girls scattered here and there, looking for the first little spring flowrets peeping through the dead leaves. But *I* was most taken up by the tinkling of the drops of maple sap as they struck on the bottom of the new tin pails hung up against the trees scattered through the woods.

The sap had just been gathered; and, in fact, one of the secrets of neighbor Clark's success is in gathering and evaporating the sap just about as fast as it runs from the trees. A large tin can is set on a sled, and this is drawn around through certain paths in the woods, and the sap is poured from the pails into this, when it is drawn up to the boiling-camp. By means of a stout windlass and proper chains, the large tank is lifted from the sled, and poured into huge tin vats up under the roof of the boiling-house. From these tin vats the sap runs into the boilers. To prevent its running too fast, however, a hollow tin can, or float, is placed on the surface of the heating-boiler, and the rising and lowering of this regulates the flow of sap. After it is heated and skimmed, another automatic faucet runs it into one of the long boilers, and it goes through this in a zigzag course (not unlike the diagram shown on page 267), so arranged that, while sweet sap is running in at the one end, maple syrup is ready to run out at the other end; and as it is all boiled in clean bright tins, being at once strained through cloth strainers, and skimmed several times, the result is a maple syrup about as white as honey, and with that wonderfully beautiful, delicious, maple flavor that makes one think of the woods and his boyhood home.

Well, at one stage of the operation there is an apparatus for removing what they call silica. This is nothing more nor less than fine white sand, or white flint, you might term it. How could sand or flint get into maple syrup? When neighbor Clark told me it came out of the sap, I was a little incredulous, but I had to give up; and while studying into the matter it occurred to me that this flinty matter was carried up by the sap to make new limbs and new wood. Did you ever know, children, that straw is composed of flint? How else could a light slender straw hold a ripened head of grain without letting it tumble down and break off? Is there any thing in the world that will hold so great a weight, and yet weigh so little of itself, as the straw that holds the ripened head of grain? Nature is a great economist. To have the grain ripened, it must be held up above the damp ground, and exposed to the breezes, and light of the sun. A support must be built for it, and it must be built quickly and cheaply. What other materials can be found so stiff and strong as this same flint, held together by the glutinous matter and vegetable fiber that forms the straw? The wheat-plant carries this flinty matter up into the pores of the straw, and builds this wonderfully strong and beautiful structure. The maple-tree, in the same way, rears its head among the surrounding trees of the forest; and to get a strong stock with as little expense and labor as possible, it weaves into it considerable flinty matter. Burn a piece of maple wood, and you will find the flinty stuff left in the ashes. This flinty material is carried up by the sap, from the soil. The sugar that goes along with it is for nutriment, or food, if you choose, to make the young buds and new leaves; and the forces of the tree are hard at work building and preparing materials just exactly as the bees in the hives are hard at work building, or at least getting material ready for new combs and young bees. The bees go off into the woods, and gather pollen from the soft-maple, just as the tree sends down in the ground for flinty material, and manufactures sugar to feed the buds.

Did it ever occur to you, that the economy of a plant or tree is strikingly like to the economy of a bee-hive? If a comb is broken in the hive, the young bees collect materials, and weave it together so it is as good as ever. If you drive a wagon against the maple-tree, the bark is broken off and injured. The tree goes to work, however, to build it up and fix it smooth, so as to leave nothing but a scar; and about the Fourth of July, if you look you will find the tree has done a pretty nice job. You break your leg; the forces of your body go to work to mend the broken bone, leaving you nothing but a scar. You know the process is going on, but you have nothing to do with it, only to keep still and eat food containing sugar, flinty matter, and materials required to fix the bone just right. Your appetite, if it is a natural one, tells you what to eat. One day it says, "Give me some pickles, or something sour;" another time it says, "We want quite a lot of sugar to work on, or some honey;" and again, "Give me some meat, and three or four good slices of bread and butter. We will tell you when there is enough." Now, the maple-tree, the hive of bees, and the healthy growing boy, are arranged somewhat after the same plan or pattern. We can pull the tree to pieces, and study its system somewhat; but we can not put it together again. Neither can we pull a boy to pieces, and see how that bone is built up again — at least, we wouldn't want to; but we can look into the bee-hive, and see all about how it is done, and know of God and his works. Now, the bees enjoy this building up, as I have explained to you in the A B C book. We know they are happy while they are doing it. A boy enjoys growing and learning, I hardly need tell you.

Yesterday Huber was cross all day, his mother said. She couldn't please him any way; but toward night she carried him over to the factory, and I carried him around among the machinery. You ought to have seen him twist his head, and wonder and look, and open his eyes in astonishment, and especially when he first caught sight of the engine, and then he "watched the wheels go round," seeming to take in, by a hurried glance, the manner in which one wheel turned another wheel by means of a leather belt between the two. I knew he enjoyed it, and my mind ran swiftly back to the time when I first went with my father into a machine-shop. When I carried him back to his mother he whopped over to me, grasped me tightly, and kicked his heels to indicate that he didn't want her at all, but much preferred to stay with me. He enjoyed seeing things move, and he enjoyed the exercise of mind it took to contemplate and understand these things. Now, then, do the maple-trees enjoy bringing up flinty matter, and manufacturing sugar out of the starch, making buds and leaves and blossoms, and all that sort of thing? I think they do, little friends, for we read in the sacred word,

> The mountains and the hills shall break forth before you into singing, and all the trees of the field shall clap their hands.

HOW I BECAME A BEE-KEEPER.

FRIEND DOOLITTLE TELLS THE JUVENILES HOW TO FIND BEE-TREES IN THE SPRING.

WHEN about sixteen years old, while boiling maple sap one day in the fore part of April, about two o'clock in the afternoon I got a little lonesome; so, placing a good lot of large wood in the fire, so that the sap would be kept boiling for some time, I started off for a neighboring sugar-camp, about a mile distant. As I neared the camp I stopped for a moment to see if the owner was in the woods anywhere gathering sap, as I did not see him near the sugar-house, or boiling-place. As I stood listening and looking for him, I thought I heard the hum of bees; and on looking up into the tree-tops all about me, I presently saw the bees taking their first flight in the spring, from a hole in a large basswood-tree, some seventy feet from the ground. When I found the owner I showed him what I had found, and he kindly told me that I'd better put the initials of my name on the tree to keep any other party who might claim it as their "find," from cutting it. He also said that I'd better let it remain till the coming fall, when he would help me cut it for what honey he could eat.

I felt proud of my "find," I assure you, and also grateful to the owner for being so kind to me. The bees seemed to be very strong in numbers, as the air was full of them all about the top of the tree. I was loth to leave them, but did so, resolving that the next pleasant day I would try going all through those woods, and look for bees. When such a day came I started out; and, to my great satisfaction, I soon found another, which I marked in like manner as I did the first. Since then I have found several colonies in trees by simply passing through the woods on warm days in early spring, and looking into every tree I mistrusted might be hollow, so as to make a nesting-place for bees. As there are no leaves on the trees at this time of the year to bother, the bees are easily seen by walking so as to look toward and a little under the sun.

Well, about the end of September my neighbor and I cut those trees and obtained about 100 lbs. of honey after it was strained, as I told you in my last article. Of course, I gave the neighbor all the honey he wanted to eat at the time of cutting the trees, and also some after mother strained it.

During the following winter I saw an advertisement in one of the newspapers, stating that if any one was desirous of learning how to hunt wild bees, he could do so by sending 75 cents for the "Bee-keepers' Text-book," and addressing H. A. King & Bro., Nevada, Ohio. Still having my success of the spring before fresh in my mind, I sent for the book; and not finding such instructions on hunting bees as I expected in it, it was laid one side without further reading, in a closet where books and papers were kept. Six years now passed, when, for some reason, I chanced to hunt in this closet and pick up this same book. As I saw the preface was short, I read that, as I always do the first thing in any book. I at once wanted to know all there was in the book, and sat down fairly "spellbound" till the last page was read. I at once decided to have some bees in the spring, as this was in January, 1869, and accordingly I engaged two colonies of a bee-keeper living a mile distant, for five dollars each, in box hives. I also purchased "Quinby's Mysteries of Bee-Keeping," and read and re-read it till I could tell all the substance of the book by simply turning to the index. Then I subscribed for the *American Bee-Journal*, which I read with great delight.

When spring opened I got my bees home, bought five L. hives, all complete, for $12.50, and considered myself well equipped for the season. I could hardly wait for summer to come, I was so anxious to see the bees fly every day; and many a cold bleak day in April and May I would go and tip up those box hives to see the bees clustered between the combs. In fact, I wanted to be with them constantly, yet withal I had a great fear of their stinging me, as my flesh always swelled badly when stung — so much so that I was often confined to the house, from my eyes being swollen shut, or a limb so badly swollen that I could not walk on it. For this reason I always bundled up well, if I went near the bees when they were flying. As it came near the swarming season, I remembered what Quinby said in his book about being able to tell about the time they would swarm, by inverting the hive in the middle of the day, and with a little smoke driving the bees out of the way, so that the sun might shine down between the combs, thus revealing any queen-cells that might be started on them.

Not wishing to keep watch of the bees all the while, I thought I would see if I could tell any thing about it. So I bundled up with veil, overcoat, and mittens, and prepared for the siege, for I so feared the stings that my wife said I made more fuss than I would if I were going out to face a bear. I often wonder that I persisted in working with the bees when I so feared them. But so it was; and after getting stung several times pretty badly, I found that each time the pain and swelling grew less and less, till finally I dropped all but a veil, which thing I still wear, as a general thing, when at work with the bees.

To return. With "fear and trembling" I blew a little smoke under the hive, and inverted it, blowing smoke from a roll of cotton rags (no improved smokers then) upon the bees, and, to my surprise, I found queen-cells nearly ready to seal over. In a few days this hive cast a swarm which was safely hived in one of the L. hives. That was the only swarm of the season, as 1869 was a very poor year for bees.

I now had a swarm in a frame hive, and these I "overhauled" every few days till I became familiar as to how the combs were built, the larvæ fed, the time from the egg to the perfect bee, etc., all of which every bee-keeper should be thoroughly acquainted with at the outset.

To sum up. In the fall I had one full box of honey (6-lb. box), and two partly filled from the colony which did not swarm, and three colonies of bees, to which I fed $5.00 worth of sugar to insure safe wintering, as the season was so poor that most of the colonies not fed starved before spring. I was offered 50 cents per lb. for the completed box of honey; but as I wished it myself, I did not sell it, even at that figure. I bought another swarm in the fall, and had one given to me which had no honey. This I fed, and a recapitulation showed an outlay of $35 00, with nothing to show for it, except the one box of honey, two partly filled and four empty hives, and five colonies of bees to run my chances on through the winter. Infatuated with the bees as I was, I now resolved that I would never lay out a single cent more on them, unless they first earned it for me; believing that, if I could not make four pay, I could not four hundred. This I held to, so that my bees never cost me more than $35.00, and have earned me my home and all I now enjoy, besides paying their way.

G. M. DOOLITTLE.

Borodino, N. Y., April, 1884.

I believe, friend D., you are putting emphasis on a pretty good point in your closing up, and that is, that beginners should be careful about investing very much money in bees before the bees pay it back; but to do this they must, as a matter of course, build up slowly, and this course of action will be our most efficient remedy against blasted hopes.—Our juveniles can go right to work now and try their eyes at bee-hunting. In some localities there may be light snows. If they can go out through the woods just as the sun comes out after one of these snowstorms, the sight of a dead bee in the snow will be a pretty sure indication of a bee-tree near by, for the bees generally bring out dead bees and rubbish almost every sunshiny morning. The advantage of early spring is, there are no leaves on the trees, and the eye will readily scan the trunk of any tree that looks as if it harbored bees.

THE DISCOVERY OF SILK.

COMPILED AND WRITTEN BY MISS NELLIE LINCOLN ROSSITER, PRACTICAL SILK CULTURIST, 6054 VINE ST., PHILADELPHIA, PA.

Continued.

SICILY and Naples kept it mysteriously for a long time; and not earlier than in the sixteenth century, the mulberry-tree and the breeding of the silkworm were introduced into the rest of Italy, and at first in upper Italy. Emanuel Philibert, Duke of Savoy and Piedmont, contributed the most to it; and those countries are also indebted to him for the introduction of the olive-tree. From thence, that new source of national wealth was transplanted into the Milanese, and the greatest part of Italy; and very soon that country became the principal seat of silk-fabrication.

Its propagation through the other countries of Europe was quite as slow. At first, their inhabitants seemed to be satisfied with admiring and valuing the silk stuffs very highly. It was only in the year 1180, under the reign of Henry II., that such stuffs, imported from China, began to astonish the English. At a later period, the Greeks supplied France and Germany with these products, which countries, in the Middle Ages, received them from the manufactories of Italy. Charlemagne wore about his linen doublet and under-garment a silk scarf around his waist. Not sooner than in the Middle Ages did the sumptuous silk cloaks, embroidered with gold and silver, worn by the knights over their more martial equipment, come into fashion. History mentions, as examples of extraordinary splendor, that Henry III. assembled, at the marriage of his daughter with the king of Scotland, a thousand knights attired in silk. Charles VI., of France, in order to display his magnificence, wore, from the year 1422, constantly, a black velvet coat-of-arms, even in the hottest days. His successor, Charles VII., wore at his entrance into Rouen, in 1449, a beaver, lined with velvet, which was the most costly and elegant head ornament known at that time. In 1485, orders were issued in Germany against such expensive apparel; and females were expressly directed not to wear more than "four costly dresses" at the tournaments; and a whole suit of silk and gold was altogether prohibited to them. Even Charles V. took off his little velvet hat, at an inspection of his army in 1547, "to prevent it from being spoiled by the rain." The silk stuffs still continued to be imported from the East and from Italy; but the first knitted silk stockings, which Henry II. wore, and which attracted extraordinary notice, came from Spain; and Henry VIII., as well as Edward VI., were likewise supplied from that country with the same article, for their personal use. No silk manufactures existed as yet in France or Germany; and not earlier than 1455 did females begin to spin and sew with silk in England; and in 1482, narrow stuffs and ribbons began to be manufactured from raw silk, imported from Italy. In 1521, silk-weavers emigrated from Milan into France, where, likewise, some attempts were made to weave Italian silk; but all these were but partial experiments.

BEAUTY IN ALL GOD'S WORKS.

ALSO SOMETHING ABOUT THE WAY PEOPLE MOVE AMONG THE MOUNTAINS OF CALIFORNIA.

DEAR JUVENILES:—Did you ever think how many beautiful things God gives us? "We can not see any," some of you say. Well, that is just what I am going to write to you about. I want you to look at the nearest thing to you that God made, and look for beauty. If it is not in the form of the article, it may be in its color or expression. You may be looking at a weed or a blade of grass, a dog, horse, cow, or a tree. Is there not something about it nice, pretty, or even beautiful? I find beauty in every thing; and if you have the word in your mind when you are looking, you will be sure to find some, and you will also find that your life is more beautiful by your search for beautiful forms. Even work will be made pleasanter by your search. When you are washing dishes, hoeing the field, or making or doing any thing, you will find it much easier to do, if you are thinking, "How nice they look!" and I am sure Mr. Root would not have to complain of half-heartedness if every one would learn to look for beauty in every thing. Try it, little ones, even for one week, and I am sure you and all about you will be made surprisingly happy.

I think I must have written it badly, for I find in my last, that the pronunciation of the name of those lovely falls was put in wrong; it is "Nah-hah-we." Say it quickly, and see how musical it sounds. It is an Indian name.

I am going to tell you of a moving I assisted at a few years ago. We were living in the mountains. Our nearest neighbor lived two miles from us. I started to visit them on horseback, as that was the only mode of travel, besides walking. When I arrived near the house I found that they were preparing to move, and they were glad of my help; but I laughed so much at first, I was not much good; for right before the door were three horses, tied to one another's tail. The first one had a feather bed and a wash-boiler evenly balanced across its back, and two kettles and a frying-pan around its neck, and the master was carrying out a bedstead, with the intention of tying that on the middle horse. It was so funny! but as they were in a hurry, I managed to work and laugh too. Well, we packed the bedstead with a lot of bedding on No. 2, and then proceeded to No. 3. On it were put a small trunk, several bundles, and three chairs. Then there being no side-saddles, a man's saddle was put on a horse. The wife was helped upon that, one baby in her arms, and a little fat chubby boy seated behind her. My boy and myself on another horse finished out the funny procession, the master leading the way, and all following. We climbed a good-sized mountain, and then down, down we went for half a mile, so steep a mountain that I felt very much afraid I should fall over my horse's head every moment; but we all managed to arrive safely at the foot, and we were transferred to a wagon waiting for us, partly loaded with things that had been taken down on horses before my arrival. We went down a narrow cañon about three miles, and then I had my first view of this lovely valley, Los Alamos, where I now am living. **Mrs. Hilton.**

Los Alamos, Cal., April, 1884.

Mrs. H., I thank you for your suggestions in the opening of your article. Last evening our pastor told us at the prayer-meeting, that some great sculptor always saw an angel in a block of marble. Now, we may, if we choose, see something good, if not angelic, in humanity all around us; or we may be so selfish and uncharitable as to see nothing but something to find fault with. Which is the better way? We may, as Pope says, see

> "Sermons in trees, books in running brooks,
> And good in every thing."

And do you notice how this thought runs into the one I have expressed on another page? The prophet Isaiah seems to be telling how the world ought to look to one who loves God. See page 270. And again,—

> Let the fields rejoice, and all that is therein. Then shall the trees of the wood sing out at the presence of the Lord, because he cometh to judge the earth. —I. Chron. 16: 32, 33.

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YOUNG PEOPLE'S MEETINGS.

"A LITTLE CHILD SHALL LEAD THEM."—ISA. 11:6.

A GENTLEMAN in talking to a school, once asked the children to guess at what age he first began teaching school. They guessed at ages from 17 to 30; but he surprised them by saying at the age of seven. At that age his father was a missionary in Jamaica, and his sister was teaching. His sister being sick, he supplied her place for a little time, and in recitation he said he had each one "toe the mark" by marking a straight line for their feet. That gentleman is now making a straight path with his feet by stepping in line wherever there is work for him to do, and has dedicated himself and his money to the Lord. He prospers, and the work he is engaged in prospers, reminding us that the Lord honors those who honor him. We may not be called to lead great minds; but whatever we do influences others to a greater or less extent. You know it is said, that "a little child shall lead them." So let us see in our leading, that we find the green pastures. Let us not run in evil ways, for fear some one might follow. Let us not follow those who start in the wrong direction; and for fear we might be led astray, let us take Christ for a leader, and say, "Where he leadeth we will follow."

I wonder if any of the young folks who read Gleanings have a meeting all their own. In our city we have one, where from 50 to 75 attend. We read and sing and pray and talk; and if any one has ideas to exchange, or thoughts to suggest, as to the best mode of conducting these meetings, or promoting the interest in any way, we think it would be quite profitable. And if you have no such meetings, I think if you will ask for some one to lead you, that you will be as greatly interested in the success of your meeting as our young folks are.

We have our city districted off, and two leaders appointed for each district; so it is not very burdensome for each to see to the number in his respective district. We are just organizing, and hope to increase the interest and number. **E. M.**

Anderson, Ind.

We thank you for your suggestion, friend E. M. The work you have spoken of is much like that in our own town; and since these young people's meetings have increased from an attendance of three or four to a hundred or more, the influence on our town of perhaps 2000 population has been wonderful.

JUVENILE DEPARTMENT

Every girl or boy, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock, six different books, as follows: Silver Keys, Sheer Off, The Giant Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

> "A chiel's amang ye, takin' notes;
> An' faith, he'll prent it."

THERE is a very great lot of letters this month, children, and I have crossed out a great part of those we have used, and a good many that I have not been able to use at all, and there is still a larger number that we shall not get to at all, probably. Now, as I do not want to disappoint you by not seeing your letters in print, I think I will not talk much myself this time, so here we go for the little letters.

LETTER FROM A 6-YEAR OLD BEE-GIRL.

I am a little girl six years old. I go to school and read in the First Reader. **Effie Bell Henry.**

Gratten, Kent Co., Mich., Feb. 11, 1884.

A SMALL LETTER FROM A LITTLE GIRL.

I am a little girl 6 years old. Papa keeps bees. I have a little brother two years old. Please send me a book. **Jennie Kirkpatrick.**

Sandwich, Ill., March 18, 1884.

A PRINTED LETTER FROM A SIX-YEAR-OLD.

I am a little boy five years old. We take Gleanings. I go to Sabbath-school. Brother said he would help me print a letter, so I could get a book.

Hanover, Mich., Jan. 6, 1884. **Clyde E. Hall.**

HOW TO MAKE HONEY VINEGAR; FROM A SIX-YEAR OLD.

I will tell you how to make honey vinegar. We put honey in rain water, and let it stand till it is sour. **Clement Brichner.**

Decorah, Iowa, March 22, 1884.

A SHORT LETTER FROM MATIE.

Papa has 75 swarms of bees in the cellar. I like honey to eat. I have a pet bird named Nellie, and a pet hen named Edith. This is my first letter. **Matie M. Talcott, age 8.**

Owego, N. Y., March 8, 1884.

A COUPLE OF LITTLE LETTERS FROM A COUPLE OF LITTLE BROTHERS.

I have a little brother five months old, and he has blue eyes; he can sit alone. I went to school one term.
CORA KRANER, age 6.

Geneva, Ind., March 30, 1884.

We keep bees, and they have all wintered well. They have been gathering pollen for two weeks. It is just fun to stand and watch them come in. They are working on maple.
AUSTIN KRANER, age 10.

Geneva, Ind., March 30, 1884.

OAK-GROVE APIARY.

We live in a grove which is sometimes called the Oak-Grove Apiary. I like to work with the bees, and I like honey, though last year was not a good honey year at all. Almost all of our neighbors have a few bees. I have a little brother, and his name is Macy. I should like to see little Huber, very much.
GEORGIANA OSMAN, age 11.

Tehama, Cherokee Co., Kan., Feb. 20, 1884.

FROM 58 TO 130, AND 6200 LBS. OF COMB HONEY.

My father keeps bees. He bought two swarms five years ago, and now he has 112. He has sold a good many. He had 58 last spring, and increased to 130, and got 6200 lbs. of section-box honey, and 800 lbs. of extracted, and it is about all sold that we have got to sell. We have a large farm, but we let it out to work on shares. I like to work with bees.
OBBIE BERT, age 8.

Sheboygan Falls, Wis., March 27, 1884.

MOTHER'S BEES.

Uncle Alonzo gave ma one swarm of bees two years ago next spring. The first summer they swarmed once, and made us 35 lbs. of nice comb honey. The next summer they swarmed four times; two ran away. Ma was afraid to hunt the queens and clip their wings. She thought to save them without. We did not get much honey. Now we have four nice swarms, all of their queens' wings clipped.
HATTIE MAY HENRY, age 10.

Gratten, Kent Co., Mich., Feb. 11, 1884.

SOME HINTS IN REGARD TO FDN. MAKING, FROM OUR YOUNG FRIEND CORA.

I am helping my uncle to press fdn. I also help him to dip. I take sheets of wax from the boards, after he has dipped them. Sometimes, when the boards get so rough that the wax sticks to them, we soap them with hard soap, and make the water soapy; and after that we have no trouble till we are through dipping. It helps a great deal. It even helps, if the boards are real smooth.

Ashland, O. CORA H. BAUM.

WHAT BLOSSOMS FURNISH THE MOST HONEY?

My father has four stands of bees, and I have one. I don't go to school. My father lost one stand of bees last fall, by taking them to the fair. I have three sisters and two brothers. Please tell me from what flower bees get the most honey.
WILBUR ENDLY, age 13.

Edgerton, Kan., Feb. 18, 1884.

If I am correct, friend Wilbur, Mr. Doolittle has decided that no one plant gives honey in such immense quantities as does basswood.

REPORT FROM A 13-YEAR-OLD BEE-KEEPER.

I received your smoker, and I think it will do its work all right. I have 23 stands; saved all of them this winter. They made about 400 lbs. of honey, and I sold 250 lbs., and it brought me about $28.00. Now I will tell you how I got a start with my bees. My grandpa gave me 12 stands last spring. I sold 7 stands at $1.00 a stand. Sometimes they are cross and I have lots of fun when I go to hive them.
FRANK J. CRABILL, age 13.

La Crosse, Ill., March 19, 1884.

Seems to me, Frank, selling hives of bees at a dollar apiece is pretty cheap, is it not?

A CALL FOR GERMAN BEE-BOOKS.

My pa has three hives of bees. I like the honey very much. Last summer a bee stung me on the finger, and it hurt. My pa wishes to know if you have German bee-books, because he doesn't know how to take care of bees. He had eight hives last summer, and they died. He would like to know the price of them.
EMMA S. SCHNEIDER.

Braman, Pa., March 29, 1884.

Friend Emma, we have not any German bee-books; but "Jacob" is fitting himself for the difficult task of translating the A B C book into German, and before many years we expect to have it going.

A 26-YEAR-OLD BEE-HIVE.

Pa has no bees, but grandpa has 99 colonies; two smothered this winter. He had 53 stands last year, and got 5075 lbs. of honey, and sold it all at 15 cents per lb. Grandpa has a hive 26 years old, which is the best of all. He got last year 129 lbs. of comb honey and two swarms. I call grandpa, J. G. Kintner; some folks call him "Old Honey." Perhaps he is well named, for he has handled bees and honey for over 40 years. Plan for wintering bees: Pack the hive inside "chuck full" of bees and honey, and the outside with dry chaff, and be sure to keep them dry all winter.
GEO. W. SHOL, age 9.

Sherwood, Ohio, March 21, 1884.

Now, friend George, I think your plan for keeping bees is a pretty good one, especially the fore part of it. If you call grandpa "Old Honey," I suppose you will be called "Young Honey," eh?

DOES TRANSFERRING BEES PREVENT THEIR SWARMING THE SAME SEASON?

The above question is frequently asked us by beginners. Our juvenile friend below answers the question satisfactorily.

Pa has three colonies. We got a colony from grandpa's last spring, and had them transferred the last day of May. Pa fed the bees before they were transferred. When they were transferred they had about a pint of honey, and had 2 quarts of bees. The man who transferred them said he didn't think they would swarm. They have increased one swarm, and made 25 or 30 lbs. surplus honey. Our bees swarmed in six weeks after they were transferred. The bees kept swarming, and swarmed the most of the honey-season. One day pa destroyed the queen-cells. He bought a hive of Italian bees. We put our honey upstairs, and it froze. Will you please tell us where to put it so it will keep? Pa put our bees in the cellar.

Mosiertown, Pa. BERTIE S. A. SPITLER, age 10.

I think, friend Bertie, you have made us a pretty good report on the subject.—I believe it is laid down in the bee-books, that honey should be stored where it won't freeze nor get damp. We keep it here in the factory two or three years, without injury — comb honey at that.

SUBSTITUTE FOR THE HILL DEVICE.

My papa has 30 colonies of bees. Most of them are in chaff hives. He did not pack them for winter until it began to get cold, and then he neglected to put on most of them the Hill device. Some time afterward, on a mild day, he took out the Hill device to put them on, but he found that the bees had built numerous little wax props, which held the packing off the top of the frames, thus affording ample winter passages, so he did not have to put on the Hill device. MINNIE DAVIDSON.

Friend Minnie, I have often seen the quilts or pieces of old carpet raised up in the way you mention; where that is the case, I think it will do just as well as the Hill device.

HOW ELLA WROTE THE BEST ESSAY OF THE TERM.

Every two weeks at school we write essays, and one time I wrote on bees, and the superintendent said it was the best production he ever read in that room. Last summer mamma saw a swarm of bees going by, and Frank threw dirt at them, and made them settle, and papa hived them. Papa extracted about 1000 lbs. of honey last season. Papa raises queens every year for sale. A sting does not swell much on me; but one made my sister very sick. I help papa make foundation. I trimmed the edges of the sheets while he made more. I used to help him extract honey also. ELLA EDMISTON, age 10.

Adrian, Mich., March 22, 1884.

A COUPLE OF LETTERS FROM THE FARIS CHILDREN.

Grandpa has about 100 colonies; he has some American hives, but doesn't like them as well as some of his own invention. He thinks they are better than any he ever saw. He is experimenting with reversible frames. If he is successful, you may hear from him, as he gets some of his supplies from you. ONA FARIS.

Carrollton, Md., March 29, 1884.

I should like to see you, and see your machinery at work. I am afraid of bees, but like honey. I like to see grandpa at work with his bees, but I don't know much about them; but I should like to ride your baby in my wagon. E. M. FARIS.

Carrollton, Md., March 19, 1884.

Friend E. M., Huber has got a little red wagon of his own, and on the front of it is painted "Hubie." He has also a carriage to ride in, but he likes the wagon better, even if it does jolt and make his little teeth rattle, what there is of them. If any of the family will just say, "Go ride, ride, in waggie?" you will see him jump up in a minute, and it will be all mamma can do to hold him quiet long enough to put on his things. It does not make any difference whether it is night or day, or whether it rains or shines, he is just as happy to go out and ride.

HOW TO SEAL UP MAPLE MOLASSES.

This is my first letter. My pa has 7 hives of bees. He did not lose any this winter. I have been helping him in the sugar-camp. I will tell you how we seal our molasses. We put it in jugs, and dip the corks in molasses, and it keeps just as well as if it were sealed with wax. CHARLEY GRATE.

Yale, Portage Co., O., Mar. 26, 1884.

Friend Charley, it seems to me the syrup that would stick to the cork would do pretty well. However, I do not think it would be as serviceable as good stout cement put around the cork when the molasses is first made. Your way it would be so easy for the boys to get in for a taste; but my plan makes it pretty hard to open the jug without letting folks know it. Don't you see?

THE SWARM OF YELLOW BEES THAT ELLA AND HER PAPA AND MAMMA FOUND WHILE GOING TO CHURCH.

We have six colonies of bees. We were going to church one Sunday last summer. About a mile from home we found a swarm of bees clustering on a limb of an oak-tree, right above the road, so we had to stop. Papa went home and got a hive and hived them. They are yellow bees, and are doing well. Papa likes his hive quite well that he got of you.

Meadville, Pa., Mar. 24, 1884. ELLA M. KEBORT.

You see, Ella, if you hadn't been going to church that Sunday morning you wouldn't have found those bees. I hope you started early enough so that taking care of the bees didn't make you very late for church.

GOLDENROD HONEY.

My brother bought a swarm of bees last winter, and got five swarms from it. We took up two swarms, as they did not have enough honey to keep them through the winter. The bees make a good deal of honey from the goldenrod, which we think is better than any other honey they make. Mamma wants to know the best way to make wax.

MARY L. STILLMAN.

Hornellsville, N. Y., March 20, 1884.

Now, Mary, we think goldenrod is the poorest honey, or, at least, our folks won't buy it when it is a cent a pound cheaper than the other. I suppose your ma wants to know how to render wax. I think the wax-extractors described in our price list are the best things to use.

JEANNIE'S PLEA FOR KINDNESS INSTEAD OF SMOKE.

My father is a bee-keeper on a small scale. He thinks he owes you very much for what he knows about bees, through GLEANINGS. He has always been very successful with his bees, getting larger returns without loss, the hardest winters. He packed his bees under a shed, in dry sawdust and chaff.

My father went into winter quarters the 2d of last Nov., with ten swarms; has ten at this date. They are all the product of one swarm since the first day of May, 1882. We extracted from our bees last summer about 2 barrels of delicious honey, and left plenty in hives to winter on; 30 lbs. left to the hive. We use a Novice extractor, purchased at your manufactory in 1881. It is just as good as ever, and has given the best of satisfaction; besides, it was almost one-half cheaper than my pa could buy one for, any place else. He got a Bingham smoker at the same time, but we seldom ever use it. It is a good one, but it makes the bees mad and cross. We prefer to use gentleness and kindness. We think our little pets appreciate kindness just as much as people do, and we can not afford to ill treat such industrious and profitable little slaves as they are for us. My pa says he got more stings the summer he used the smoker than he ever did before or since. I think it is a hard-hearted man who will kill and tantalize his bees with smoke when kindness and gentleness will do just as well, and cost nothing. We keep the beautiful Italians, and they are by nature kind and gentle themselves. Pa thinks I am the best helper he has with his bees.

Napoleon, O. JEANNIE FISHER.

HOW TO MAKE HARD AND SOFT HONEY-CAKE.

Pa lost 8 colonies this winter. I will tell you how to make hard honey-cake. Three cups of honey, 2 cups of butter, 2 teaspoonsful of baking soda, 1 of cream tartar, 2 eggs. Mix, and roll out thin.

Mombaccus, N. Y. RENNIE MOREHOUSE.

I will tell you how to make soft honey-cake. Cup and a half of honey; 1 cup of butter, 2 eggs, 1 teaspoonful of baking soda, 1 of cream tartar, 4 cups of flour. ESTELLA QUICK, age 10.

Mombaccus, N. Y., Mar. 24, 1884.

A GOOD REPORT IN WINTERING.

My pa keeps bees; he has 44 swarms; he has not lost any this winter. I had 2 swarms and sold them to pa. I hive the bees when he goes to town.

T. W. HEATH, age 14.

Sherman, Texas, Feb. 5, 1884.

A HOME-MADE EXTRACTOR.

My father has 9 colonies of bees in the Langstroth hive. He reads GLEANINGS. He made an extractor in a big barrel. He used the wheels of an apple-peeler for the gearing, and it did well.

R. A. GARBER, age 7.

Leesburg, Tenn., March 17, 1884.

FROM 47 TO 100, AND 5000 LBS. OF HONEY.

My pa last spring had 47 swarms of bees, and increased to 100, and we got 5000 lbs. of honey, and we wintered 30 swarms in chaff hives, and the rest in the bee-house. CHARLES D. CHAPMAN, age 11.

Hicksville, Ohio, March 22, 1884.

SADIE'S GOOD LETTER.

I took an old lady her supper last night. She is sick, and very poor. Pa keeps bees, and I like honey. I know all my letters, and can spell some.

SADIE SMITH.

Greenwood, W. Va., March, 1884.

I am very glad indeed, Sadie, to see you engaged in such work; but I presume your good mother sent you, did she not?

A 4-YEAR-OLD BEE-OWNER.

My pa has 5 swarms of bees, and my little sister 4 years old has a swarm of hybrids, and she is not a bit afraid of them. When they come out of the hive and can't get back in, she will pick them up and put them back. I have to go two miles to school, and I go to Sunday-school. It is a mile and a quarter.

Lyons, O., March 24, 1884. LOUISA E. GREEN.

1700 LBS. OF HONEY FROM 35 COLONIES.

My pa keeps Italian bees—35 swarms; wintered part in cellar, and some outdoors, packed in chaff. All have wintered well; took 1700 lbs. of honey last year. I gather the eggs and feed the hens. My pa's name is Daniel Wright.

A. ERNEST WRIGHT, age 7.

Violet, Ont., Canada, March 29, 1884.

HOW BENNIE GOT HIS BEES.

I found a bee-tree last year. My father made a hive, and put them in it. They are still alive, working nicely. I have two brothers older than myself. We do not use tobacco nor intoxicating drink, so you see we don't have to quit. I want to be a bee-man some time. BENNIE CHATFIELD, age 15.

Sheridan Coal Works, Ohio, March 23, 1884.

A VISIT TO THE HOME OF THE HONEY-BEES.

My pa has one stand of bees. He and my brother Harry went to see you last summer, and liked the "Home of the Honey Bees" very much, and the man who kept it. Pa has the A B C book and takes GLEANINGS. I have a yoke of calves that I can work some. CLARENCE LATHROP.

Armstrong, Ohio, March 27, 1884.

GETTING BEES OUT OF THE WOODS.

We keep bees. We have 3 hives now. We did have more, but one starved, two froze, we sold two, and one was eaten up by the millers. We found our bees in a large tree in the woods. I like to see the bees getting honey, and I like to eat it. We have some nice chickens; they are the Houdans and Leghorns. They are nice chickens. I am going to raise some. I go to the reading-club every Friday night. EDDIE ORRELL.

Vernon, Ind., March 9, 1884.

SHOOTING INTO SWARMS.

We have nine colonies of bees. We wintered them on their summer stands. They are in very good condition. One swarm started to run off last summer, while pa was fixing a hive to put them in. I saw them going, and told pa and the hired man, and the hired man got a gun quickly, and shot up among them. Then they settled immediately on a tree. We hived them, then pa gave them to me.

OTTO L. NALE, age 10.

Salem, Ind., April 2, 1884.

The firing into the swarm may have caused them to alight, Otto, but I do not really feel sure of it. I know that many people think that the firing of a gun causes them to alight.

POISON HONEY FROM THE WATER-LILY.

Papa had 40 swarms of bees last fall; but he has lost them all but six. They got honey from lily-pads, and that poisoned them.

Ripley, Me., March 25. JOSIE F. HOYT, age 8.

I suppose, friend Josie, you mean by the expression "lily-pads," flowers of the water-lily. But it seems strange that it should be poison. Is not your father mistaken in regard to what killed his bees? I have often heard that the water-lily yields honey, but not that it was poisonous.

HOW A BEE PACKS HIS POLLEN, ETC.

My sister Stella and I have one hive of bees. Ma has one, and papa has 26. Papa has made a show-case to sell section honey, like the one he saw in GLEANINGS. I watched a bee loading himself with pollen. He gathered it with his mouth, and put it on his fore leg, then pressed it on his hind leg. He worked in this way until he was loaded.

Friendly, W. Va. NORA WILLIAMS.

Pretty well told, Nora. If you watch bees when they are working in meal in the spring, and you can see the whole operation of moistening it with their tongue, rolling it up with their feet, and then patting it down in the pollen-basket when it is finished.

JESSE AND THE DRONE.

My brother has 3 colonies of bees, and is going to get some more. He likes to work with bees. Once I went to catch a drone, and a bee stung me, and my eye swelled shut, and I could not see for one day. JESSE M. DAILY, age 11.

Mt. Hope, Kan., March 30, 1884.

Well, my little friend, the laugh seems to have been rather on you than on the drone, was it not? I suppose you looked sort o' funny when you had one eye shut, didn't you? Did you ever see anybody try to laugh when one of his eyes was shut by a bee-sting? You just notice next time, and see if they don't look comical.

THE QUEENLESS HIVE, AND SOMETHING ABOUT GRAY'S FEEDER.

We have two skeps of bees. One is dwindling away; they took out a card of brood comb, and there was neither brood nor eggs. Do you think they are queenless, or what is the matter? We have one of your Simplicity Gray's feeders, and they got the glass to fit the top. They put wire in the place the syrup goes, and sponge in between the slats, to keep the bees from drowning. They were crowding each other, and knocking one another head first into the syrup, and they could not get out. ANNIE H.

Anghrin, Ont., Canada.

I think your hive was queenless, Miss Annie. In regard to the Gray feeder, as the wire cloth sometimes hindered the sliding of the glass, we thought we would omit it; but so many of the friends protested, we have had wire cloth put over them again. This keeps the bees from getting in the way when you are filling the feeder up, and it also prevents pouring feed on to the little fellows, which is especially to be avoided during cool weather. When it is so warm they won't be chilled, they lick it off without very much if any harm.

LETTERS FROM HERBERT AND JESSIE ABOUT THE 50 HIVES OF BEES AND 4700 LBS. OF HONEY.

My papa has 50 hives, and my grandpa has 24 hives of bees. I helped to carry combs for my grandpa last summer, and sometimes at home. We got over 4700 lbs. of honey. We have a high board fence all around our bees. HERBERT FRASER, age 8.

Cumminsville, Ont., Can., March 24, 1884.

Papa is a school-teacher, and mamma has to take care of the bees in the spring. The bees are flying now nicely every day. Pa has been sick all spring, and could not teach. We feed our bees bran, brown flour, and cattle-food, mixed together, and we put syrup in a jar, and turn it upside down on a board with drains in it, and the bees work on it like every thing. I do not like the honey, except when it is candied. Papa makes his own foundation.

JESSIE FRASER, age 11.

Cumminsville, Ont., Can., March 24, 1884.

A pretty good report, children. I shouldn't wonder if the facts you give in the above might be of considerable advantage to some who are new in the business.

GRASS IN FRONT OF THE ENTRANCES.

My father keeps bees, and has two swarms. He puts sawdust around the hives, but the grass grows up through it, and makes it look very bad. I wonder if salt sprinkled on it would stop it.

Ypsilanti, Mich. LEONARD WARREN.

Friend Leonard, this matter of entrances is one of the great problems. Salt will kill the grass, and keep it down; but it is pretty expensive for 100 hives or more. It is quite an important matter just now, to begin considering something to keep grass and weeds from knocking down heavily laden bees. Pulling the weeds and grass up by the roots will do it, but this is a good deal of work. The white sand we use around our entrances does pretty well to keep weeds and grass down, together with the pulling.

LETTER FROM THE WINDHAM HOTEL.

Papa is proprietor of the Windham Hotel. It is four stories high, and can accommodate about 100 boarders. We have some boarders all the year round. Papa has 125 hives of bees. He uses the American hive, from which he got about 6000 lbs. of honey last summer. He winters them in the cellar. We have taken your paper nearly ever since the first issue, and we like it very much. Sometimes the Homes department is read aloud in the parlor Sunday afternoons. Mamma was especially interested in one of your pieces which spoke of neckties, for she thought that it was especially adapted to papa's case; and she thinks that if you would write something similar often, it would have a good influence over him. I have a little sister Marian, who is nine years old. We both go to school.

Windham, N. Y. DORVILLE COX.

Well, Dorville, I think 6000 lbs. of honey is pretty fair even from so large an apiary; don't you? I am glad indeed to know that the Home Papers have been honored so much as to be read in your parlor on Sunday. Seems to me your papa ought to wear a necktie, if he is proprietor of such a great nice hotel, such as I see the picture of on your letter-head.

SOMETHING OF A BLASTED-HOPES STORY.

I am 14 years old, and I help father with the bees. In 1882 he bought 12 colonies; paid $120 for them; extracted 872 lbs. honey. Poor yield, poor season here. He did not feed up early enough in the fall. He tried to feed in the winter. They all died but one, and that one very near it, and we had 27 in the fall. He bought from you $26.00 worth of bees by express; received them July 12, 1883, finely done up, very little loss; he gave them Italian queens, made 7 fine hives before fall. He bought 5 more swarms, just the bees, for $21.50, which made 13 colonies. We then got 8 more that were to be destroyed by sulphur, very late in the fall. We fed them all the granulated sugar they would take, but they did not breed much. They are all alive but one, yet in the cellar.

When feeding last fall, robbing was the general business. The weak ones would have been destroyed, but I took a strip of glass and stopped the entrance, leaving room for only one bee. This completely stopped the robbing.

We extracted 750 lbs. of honey as late as it was, which, at 15 cts. per lb., paid all cost, and $32.00 to boot.

I have five brothers and no sisters. I should like to show my twin brothers, to compare with your Huber. He must be something extra to beat either of them. They are one year and nine months old.

ALISON BROWN, JR.

Molesworth, Ont., Can., Apr. 7, 1884.

TWO QUEENS IN A HIVE.

Pa has 50 stands of bees. My brother has one, and I have one. They wintered well. It is fun to see them roll and tumble in rye meal. They carried in a good lot in the last few days. My pa says he thinks they come out after the meal when it is so cold they had better stay in the hive. Last fall when pa packed my stock for winter we found two queens.

They were both on one frame, but not on the same side. One looked older than the other. We have not looked at them this spring. They were put away with pure linden honey, and no pollen, and are alive, but are the most quiet in the yard. The wild flowers are just coming. The bees are looking after them when it is so they can fly. I help to extract honey, and look for swarms, and help what I can.

LYLE REED.

Chester X Roads, Ohio, April 1, 1884.

HOW TO MAKE A SWARMING-POLE.

My father and mother have 26 hives of bees, and I have one. My mother gave it to me this week. My bees are in a box hive. My father is going to send for a Simplicity hive. Our bees are near the orchard, and often alight in the apple-trees, and are very hard to get down. Last summer my mother got an old wool hat, tacked it on a long pole, and held it up for the bees to alight on. I think it is a good plan.

LEWIS H. EGBERT.

Sandy Lake, Pa., March 29, 1884.

Very good, Lewis. Any black substance put on the top of a pole, that looks like bees, will usually induce them to settle on it. A ball of black yarn is sometimes used; and to make it better still, some dry dead bees strung on a stout thread, and would around this ball, makes a very good swarming-pole.

3000 LBS. OF HONEY FROM 50 COLONIES.

Papa had 50 colonies of bees. I have one. My bees are the prettiest in the yard. They are Italians. I got my queen of Mr. Brooks. Papa gets lots of bees of him. Papa lost several colonies this winter. We got 3000 lbs. of honey last year. I got 50 lbs. We had 18 colonies, spring count. We extracted nearly every day, and I got tired. Can't you bring Huber over to the bee-keepers' meeting next summer at North Salem? I think it is some time in June. Papa says Mr. Muth, of Cincinnati, will be there, and I think you ought to come too.

GERTIE OREAR, age 10.

Ladoga, Ind., March 30, 1884.

Well, I am very much obliged, Gertie, for your kind words to little Huber. He has never been to any kind of meeting, for the very good reason that he would probably break up any fair-sized meeting of any kind in about fifteen minutes. He breaks up every thing he can get hold of, or that happens to come around, as it is.— It seems to me that 3000 lbs. of honey was pretty well, was it not?

HOW TO KEEP SQUASH-BUGS AWAY.

Sprinkle the plants with air-slacked lime as soon as you see any bugs, and keep them well sprinkled until they get to growing well.

ETHEL F. COFFEE, age 9.

Freeport, Me., March 30, 1884.

Friend Ethel, I think very likely the air-slacked lime will do pretty well; but our bugs do not seem to care very much about it. Prof. Cook recommends in his book, "Injurious Insects," putting shingles each side of the hill, and then pinching the bugs' heads when you find them under the shingles. One of the men who work in the factory here brought us some nice squashes, and I asked him how he kept the bugs away, and he said he had a plan of his own. After a little pressing, he told what the plan was. He said he put so much fresh cow manure around the hills that the bugs could not stand the smell of it, and so they left the young squash-vines to grow in peace. I presume the bugs all walked off in disgust, holding their noses, very likely, till they got out of the neighborhood. Very likely his application of strong manure helped the squashes to grow, for squashes are rank feeders, and will send out little roots all along the vine, to grab hold of any kind of rich manure that they may find.

AUNT LUCINDA AND GRANDPA LANGSTROTH AT THE CONVENTION.

I am the little boy Aunt Lucinda saw at the convention. I saw lots of folks there — Messrs. Hutchinson, Heddon, Newman, and others; but I did not see you. You ought to have been there, and seen Aunt Lucinda kiss Grandpa Langstroth, right before us all. They all laughed, as if they wished they had been in grandpa's place. Papa took our bees out of the cellar the 20th of March — 175 colonies: put in 187 colonies the 20th of Dec. I am afraid of bees. I like to take a handful of drones, and make the girls think they will get stung.

DANIEL WEBSTER.

Blaine, Ill., March 25, 1884.

Now, Daniel, you have gone and let the cat out of the bag. And so Aunt Lucinda kissed Grandpa Langstroth right before all the people, did she? Well, I guess it didn't do any harm, after all. I am very glad indeed to see so friendly a feeling among the veterans. So you like to scare the girls, do you? Well, if you scare them with drones only, I guess it won't do very much harm. Look out that you don't get hold of a worker-bee, though, when you think you have only a drone.

LUCIAN'S STORY ABOUT HIS PA'S BEE-KEEPING.

My pa bought two swarms of bees in the winter of 1881. They died in the spring of 1882. Some bees found the empty hives, and came to go into them, and I threw some stones at them, and they alighted on a wheelbarrow, and I told ma the wheelbarrow was painted with bees, and she came out to see, and ran and called papa, and he hived them. That swarm increased to 3. We put them in Simplicity hives, with chaff cushions and chaff division-boards, and they wintered all right, and increased to 18. We bought one swarm of Italians, and Italianized 6 others. We found another in the fruit-yard, on an evergreen, and pa went to one of the neighbors and got two which they were going to take up, which made 22. They swarmed so often that they didn't make much honey — about 200 lbs., I guess, and pa thought they did not have bees enough, so he went to the woods and got 6 swarms and put in with them, then he fed them as much sugar as he got honey, then left them all on their summer stands, and put 11 of them on boxes, and packed them in chaff. He built corn-shocks around the other 11. This week we overhauled them all; found one swarm queenless; another very weak. We put them together, which made a good swarm. The rest were all right, only they were a little short of stores, so we made some candy and fed them.

Pa bought the A B C book and a smoker of you, and GLEANINGS also; and of course I have to take care of them.

LUCIAN DARNELL, age 11.

Hinckley, Ill., March 21, 1884.

Our Homes.

Pray for them which despitefully use you and persecute you.—MATT. 5:44.

I WONDER how many there are among my readers who have been inclined to laugh and jeer when the subject of prayer came up. I once had a talk with a saloon-keeper in jail who expressed himself something like this: "Why, Mr. Root, it really makes me sick to hear folks talk about praying. I have heard so much about it that it disgusts me." And to tell the truth, dear friends, it is not very many years since I told my good old mother that such things as family prayer and family worship were behind the times, and only a relic of an old superstition. For many years family worship had been dropped in my father's household, but there had been a sort of neighborhood revival at the time, and father and mother had been discussing the matter of Bible-reading and prayer. Shall I tell you, friends, where I stood at the time I declared the Bible and prayer were behind the times? I was about eighteen years old, and of course thought myself capable of deciding on the most important matters then before the world. My Sundays were spent in going around and amusing myself wherever I felt inclined to go. Although I had got started in no very bad habits, I was averse to church-going, and preferred to spend my time with a class of men and boys who told low-lived and obscene stories, and rambled about the woods, and sometimes the saloons, where, in years after, the Abbeyville Sabbath-school was started. Not long afterward, my good father insisted on my going with the rest of the family to church, and he did a very wise, kind thing, I tell you.

I have taken up this subject of prayer just now, because I have been thinking there might be those among you, especially among the younger ones, who feel annoyed by prayer, and who also feel a backwardness about discussing prayer. "What good does it do to pray?" some one may ask. May be I can help you a little in it, friends; or perhaps I can suggest some place and times in which prayer is a really good thing. Jesus recommended prayer a good many times. He once told his disciples how to pray; and in the closing up of this great sermon of his on the mount, he advises us to pray for those who despitefully use us and persecute us. Why did he give us such advice as this? In the sentence just before this one, we read, "Do good to those which hate you." Now, it is a good plan to do good to anybody. One who goes through the world doing good will be happy; there is no happiness that we find in this world of ours equal to the happiness that comes from the sense of having done good to somebody. It is a pleasant thing to do good to friends — to return favors — to do them a kindness. But very few know of the rare thrill of joy that comes to a human soul when he has deliberately and purposely done a good act to some one who has been unkind and spiteful; especially if it has been done because of these words from our Savior. It is a hard thing to do, I know; but blessings come in proportion to the sacrifice and difficulty we find in obeying the commands of our Savior. Before you can do good to an enemy, your thoughts and feelings must undergo a change to a certain extent. You have got to feel kindly toward him. You have got to overlook his unkindness toward you, and let it pass; and to do this you will have to cultivate a Godlike spirit. Now, the best step toward honest prayer for anybody is to think kindly of him; in fact, you can not pray with bitterness in your heart. Praying is the forerunner of doing good, and it is, therefore, in one sense, doing good. When you pray for some one, you have commenced to do that person good. You have called on God the Father, and invoked his divine blessing upon him. Ungodly men know what it is to curse people they do not like. Of course, they have little or no faith that God hears, or as little care. Still, they have called upon him. They called upon him in the wickedness of their hearts. One who loves God, and who is trying to be honest before him, never takes his holy name upon his lips, except it be with reverence and respect and honest sincerity; and so in calling upon God to make the one who misused us better. We have committed ourselves, as it were, to the work of reclaiming not only the brother who stands before us, of whom we have been thinking, but of reclaiming the world, and therefore we are in unison with God, and working with him. If there is any thing good in any human being, all his better qualities, and all that is good in him, is called out and called into its greatest and best activity by the mental effort he makes in going to God in prayer. The act of praying frees him, as it were, from earthly passions and selfish ends and motives.

I have told you many times of how prone I am to get prejudiced, or stirred up to lose, for the time, my calm and quiet better judgment. A great many times even now, as I lie down at night I feel sorry that I have been so vehement in some certain case during the day. I feel sorry I have not been more considerate in regard to the feelings of those around and near me. I often, very often, feel sad to think I have dwelt so much on what is wrong in my fellow-men, and have thought so little of the good part there is in almost every one. Prayer helps me over this besetting sin of mine, and one of the prayers I utter oftenest is for a gerater and broader love for humanity.

Once I had some difficulty with a very good friend of mine. We both argued the case, and each felt considerably tried with the other because we did not see the thing just alike. I felt badly that night as I knelt in prayer before retiring, and felt a little like apologizing for having been so vehement and ungentlemanly, for that is just what it was. My friend was a Christian and Christians should be very careful to remember that "we be brethren." I had, as I said, an uncomfortable sort of feeling that I had somehow overlooked the matter that we were both professed followers of Christ, but it did not strike me very forcibly until I came to my type-writer in the morning, where I found a little note of apology from this friend, and an expression of sorrow that he had not been able to make his life more consistent in this very respect. The closing of this little note was in words something like this: "Please pray for me." Through many a year these words have followed me, and have given me fresh inspiration and energy in trying to follow the Savior. Do you see what a change, friends? Suppose you should disagree with some Christian brother or sister, and have a pretty warm talk. When we are having these warm talks, we feel like doing almost any thing else rather than pray for each other. Did you never think of it? The tendency is to wish our opponent to do almost any thing else, rather than pray for us. Satan persuades us that our friend is no Christian at all; that we are right and he is all bad, and therefore Satan's logic would be that you do not want your friend's prayers; because if he did pray, or try it, he would be a hypocrite. Well, now, to get where you can ask him to pray for you, you have got to unbend quite a good deal yourself. You have got to consent to believe and admit that you are a sinner; and you must include in it that this brother with whom you have been having this tussle is a good man and a Christian; furthermore, that he is just as good as you are, and has just as much right to stick to his position as you have to yours. I wonder if it is as hard for anybody else as it is for me to come down and humble myself in this way, and give up. Well, after you have pounded down *self* (and it generally wants pounding down a good way too) you have got to love your opponent. Some way it is awful hard for me to do that too. Then when you two stand side by side,—even in spite of your differences so near side by side that you can truly and honestly say, "We be brethren,"—then, and not till then, can you ask him to pray for you. I wonder if we shall ever realize, friends, how much we need the prayers of others. "I am having a pretty tough time of it, Mr. Root. Please pray for me." These were the words of a friend who had commenced to give up tobacco. How gladly I prayed for him, and how glad I was that he spoke those words! It has warmed my heart toward him ever since, and it has made me happier to think that he in his weakness and helplessness cared for my prayers. Men of the world may laugh and sneer at prayer, because they insist that it is all put on. What an idea that is of Christianity or Christian people, that a man would put on a pretense of devotion in order to further some selfish end or scheme! What an awful sin is the sin of uncharitableness, or, rather, to what awful depths may it lead us! It has seemed to me lately, that it is a sin that might almost be set side by side with intemperance; and one of its worst features is, that it gets in everywhere. It gets into Christian homes. It is seen sticking out in its hideous unsightliness among otherwise well-bred people. It makes the whole world hideous, instead of full of beauty.

At our prayer-meeting last evening, our pastor mentioned a celebrated sculptor who, it was said, always saw angelic forms in blocks of rough marble. He was looking for beauty, and his mind dwelt on that which is good and holy and pure. Now, scoffers and cynics see no beauty; they see nothing angelic. It is our privilege, friends, to look at humanity as this sculptor looked at this block of marble; not only our privilege, but duty. In one of "Pansy's" writings, which I have been reading within a few days, she takes off this prevailing and besetting sin, and I want to copy the narrative a little, just to give you a view of it. Our readers are to bear in mind, the following sketch is a conversation that took place while the family, who had just returned from church, were waiting for the father to come in to prayers. Helen and Ermina were church-members, while Tom and Maria were not:

Mr. Randolph had gone to his room, would be ready in a little while, Grace said, so the family lounged in various attitudes awaiting his coming.

"What a *very* long sermon Mr. Gordon had tonight!" Helen said, folding her crape veil. "I got *so* tired. I wonder if it wasn't an old sermon. Some way it sounded like one to me."

"I'm sure *I* don't know. He might preach an old sermon every month, and I should be none the wiser. I can't remember Mr. Gordon's sermons; they don't interest me." This from Ermina.

"I think this one was interesting; there were a good many illustrations." This was Grace's timid protest.

"I'm tired of his illustrations," Helen said, wearily. "He has about twenty for every sermon. I don't see the use of a minister telling stories all the while, as if his congregation were a parcel of children."

"Nevertheless it is generally considered the most acceptable style of sermonizing," Tom said, as he stretched his handsome self on the lounge, and laid his curly head on Grace's lap.

Helen turned, and looked at him in cool surprise.

"Who ever imagined that *you* had any idea concerning the most acceptable style of sermonizing? I didn't know it was in your line."

"It has been in my line to hear Beecher and Talmage and John Hall, perhaps you know; and I heard several illustrations used, I can assure you."

"Oh, well, I have no objection to illustrations where they are needed to explain truth to those who can not understand it without. I only wish you had profited by those you have heard."

"I wish I had, with all my heart," Tom said, gloomily. "I think, myself, that *patterns* are needed as well as illustrations."

Maria here took up the conversation.

"I wish Mr. Gordon would leave his handkerchief at home; how nervous that man does make me, winding it around his hand and twisting it in all sorts of shapes. I'm always afraid he will forget where he is, and make an out-and-out rabbit, as I presume he does at home for the children."

"His handkerchief doesn't trouble me as much as his continual fidgeting," Ermina said. "Squeaking boots too. If I were Mrs. Gordon I'd soak them in grease for a month; and he shrugs his shoulders worse than ever. Helen, did you notice him to-night? It's for all the world just as his baby does, when it wants something it can't have."

"He is so wretchedly nervous, anyway, that it is a trial to watch him. Sis Wilcox says he gives her the fidgets."

"She has them, anyway," Maria said. "She acts like a simpleton. If I were going to whisper and laugh as much as she does, I should choose some less conspicuous place than the choir."

"Well," Ermina said, "she *is* a simpleton; why shouldn't she act like one?"

"She is a member of the same church with yourself," Tom said, pointedly; and Helen made emphatic response,—

"What if she is? That doesn't insure perfection."

"So I perceive. I was simply interested in observing how you all love each other."

"I wonder who pretends to love her? I'm sure *I* never did."

"But I thought that was one of the articles of your creed?"

"That only helps to show how limited your knowledge of church matters is. Maria, how *many* colors had Laura Fox about her this evening?"

The point I wished to call attention to, friends, was particularly the uncharitable criticism of the family circle. Not only was the minister pulled to pieces and found fault with in a way that is really painful, but their own particular friends who attended church came in for their share; and before they got through they turned around and said bitter and spiteful things to each other. The two who were church-members seemed just as bad, and may be a little worse, than the others. You may say that this is fiction. Friends, it is not *all* fiction. There is a tendency to just such talk in our own family, and I am ashamed to say it; and for some strange and unaccountable reason it seems as if the temptation were greater after coming from the house of God than at any other time. I know it from personal observation, and from what I have heard, that these sins are common ones. When I first heard that grand, wonderful sermon after I had chosen Christ as my leader, a lady made the remark, as she was passing along the walk, just after she got out of church,—

"Seems to me Mr. R. didn't preach to-day as well as usual."

I almost started in surprise and astonishment. To me, the sermon had been the most wonderful I had ever heard. Nay, that expression does not half tell it. To me, it was *the* most wonderful event of my life. As I drank in his words, and realized that it was my privilege to stand by him and work with him, the flow of happiness that poured in upon my soul was beyond any thing life had ever given me; and yet this other listener spoke of it as something extremely mild and commonplace, and not even up to his average! Dear friends, do you not see that it is in the listener, and not in the preacher? I came just on that Sunday, hungering and thirsting for righteousness, and for the word of God, and I was filled—filled in very truth, till I overflowed with love and charity to all mankind. Poor Tom! he saw the jarring discord; and although his reproof was not given with a Christian spirit, it was none the less true. Although he was no professor, he knew that Christ had said, "By this shall ye be known of all men, that ye love one another." And when one of his sisters remarked that their friend Miss W. talked like a simpleton, and that the other took it up by saying, "She *is* a simpleton; why should she not act like one?" he could not help replying that he was interested in observing how they all "loved each other." Poor Tom was unhappy because his own conscience was troubling him. He was disgusted, too, to see how very little trace of the spirit of Christ could be found in professing Christians, and these his own sisters. May God help us! I hardly need tell you that this family, and especially these daughters who were church-members, should have gone to church praying for their minister, and hungering and thirsting for the salvation of souls. If the friend of whom they spoke was really fidgetty and nervous, why, of course she, poor girl, should have been prayed for too. Tom was not given to prayer; but yet, poor fellow, he seemed to know what was wanted and what was needed. Jesus said, "Pray for them which despitefully use you and persecute you." We who are his professed followers forget not only to pray for enemies, but, I am afraid, instead of praying for friends, we indulge in fault-finding and criticism. "Lord, help! Help us all in our fearful lack and want of that divine spirit that would lead us to peace and happiness and all that is good." How often I need that prayer, friends! If we ever offered prayer for those about us; if we truly loved humanity, how could we have the disposition to see things as we do?

While we are on this subject, dear friends, may I ask you if you are praying for your pastor? or is it true, that you look for imperfections in him as well as the rest of the world, and indulge in rehearsing his faults and failings and weaknesses? God help you to correct it if you do. If we are to pray for friends and enemies too, then we are to pray for everybody; and if we can not pray consistently without love in our hearts, then we are to love everybody. "Thou shalt love the Lord thy God," you know the command is, and it also includes "Thy neighbor as thyself." What a wonderful thing it would be, to be able to go through life with this spirit of love and prayer for everybody! for do you not see how it would crowd out and preclude all this uncharitableness and fault-finding feelings and speeches?

Sometimes when disposed to find fault, and to pick at people's weaknesses and imperfections and shortcomings, I have mentally stood still, as it were, and taken a view of the promptings of the evil one, and then turned and taken a view of what the promptings of the Savior would be. Satan would prompt me to say, "Why, that man is a fool; he does not know any thing at all. Did you ever see or hear of so ridiculous an operation as that?"

About the time he has got so far as that, I stop him; and then, like the sculptor who saw an angel in a simple block of marble, I try to turn right square about and think of the good qualities of this same brother. The very thought of calling him brother, and recognizing him as a fellow-traveler, does me good to commence with. Then I try to put it this way: We all have our different ways of doing things. I have my notions of how work should be done, and other people have theirs. But although their way is widely different from my own, it does not necessarily follow that mine is so much the better. Perhaps when he gets through he will have accomplished as much, or more, than I would have done. If he is really lacking in ability, what a very unkind and unchristian act it would be to call him a fool! If it were really a fact that he is dull, and I am bright and ready, the proper thing for me to do would be to feel a brotherly sorrow for his mistakes, and an earnest desire to give him a little lift, out of gratitude to God for having given me abilities beyond his own. I am supposing, you see, that my abilities are superior to his. The fact is, this is probably only one of Satan's wicked suggestions. What a very poor way it is, anyhow, to get into a habit of calling folks fools! or, to put it into the language of the little story we have been giving an extract from, to call folks "simpletons," or to even say they *act* like simpletons. If somebody should want to know of me the best way in the world to be unhappy and blue and miserable, I think I should tell him to commence by finding fault with his neighbors; call them fools and simpletons; and if you do not get the blues pretty soon afterward, it will be very strange indeed. In the same line, I should advise one who wanted a recipe for making one happy, to speak good and think good of everybody he comes across. Or, to come right down to the science of the matter, pray for people you have any thing to do with; and especially pray for them when Satan persuades you to feel unkindly toward them. This matter of praying for people is not simply words, mind you. The repeating forms of prayer because somebody told you to, will no more bring the blessing than will talking about the garden, get it free from weeds, and make the plants flourish. You must get right down to the business. Sometimes people urge that they can not feel a love and interest in others. My friends, you can do kind acts for others, and you can speak gently to them, and you can stop wicked thoughts about them, just as surely as you can go out into a garden and kill weeds, and loosen the dirt about the plants you love.

In our Tobacco Column, quite a number have said of late, "Pray for me." I am always glad to hear this, because I know it indicates spiritual growth. It does us good to ask our friends to pray for us, in the same way that it does to pray for them. One who stands up in prayer-meeting, and says, "Pray for me, friends," must be an arrant hypocrite indeed, if he could, after this, indulge in spiteful thoughts or speeches toward those of whom he had asked to be remembered in their prayers. When I have asked some friends to pray for me, I am afraid I shall do something inconsistent with this request. I am afraid I shall dishonor the name of Him who taught us to pray.

One day, not a great while ago, I had been talking about this same matter of prayer, and I was so afraid I should say something afterward, or do something inconsistent with what I had said, that I actually meditated having some little cards stuck up around through the rooms of the factory, and I would have printed on them, "Look Out!" Then, when my eye caught them, I might remember that I was to look out and do nothing out of keeping with what I had said. Thus you see, friends, how prayer is a safeguard. It is a contract, or compact, as it were, between ourselves and God the Father. In the 17th chapter of John we have a record of the way in which the Savior prayed. Here is what he says about this compact that should bind us to him and to each other:

> Holy Father, keep through thine own name those whom thou hast given me, that they may be one, as we are.

And again:

> As thou, Father, art in me, and I in thee, that they also may be one in us: that the world may believe that thou hast sent me.

Through prayer we get acquainted with God, as it were. This communion with him opens out and enlarges and expands like any thing else we study in nature, or, rather, beyond any thing else; and after we have made progress in this direction we seem to live and move in a different world, so to speak. Others, may be, who have no faith in God and prayer, may laugh and scoff at us. But it does not harm us one bit. We know we are safe, because we are at home. The sense of security and safety that comes to an honest follower of the Savior's teachings is more sure and satisfying than any thing else in this world. See these concluding words of that wonderful prayer, and the promise that is carried with it:

> O righteous Father, the world hath not known thee: but I have known thee, and these have known that thou hast sent me. And I have declared unto them thy name, and will declare it; that the love wherewith thou hast loved me may be in them, and I in them.

Tobacco Column.

WHAT A GOOD SERMON DID.

I AM a member of no church, but I believe the Bible, every word of it. We have got as good a pastor here in our church as I ever heard preach. Some ten months ago he gave the young men a sermon, and it was about this one thing. He told them to go home and pray to the Lord Jesus Christ to help them. So I did as he said, and there has not been a night in ten months but that I have prayed, and God has heard my prayers, for I prayed that he would take that appetite for tobacco from me, and he has, for I have not wanted it since; and before that I used almost $3.00 worth per month. I spent over $200.00 for smoking and chewing. Now suppose I had taken that and bought some good books, or given it to my neighbors to buy GLEANINGS with. How much better it would have been for my fellow-men and me! Now I say, young men and old men, put your trust in the Lord Jesus Christ; pray to him, so when you go to town on Saturday, and election day, you will come home to your mothers, to your wives, and to your sisters, good, sober men as you went. I believe in Christ, and he will answer prayer. A. H. TISDALE.

Minneapolis, Minn., March 18, 1884.

Friend T., you say you are a member of no church. Why not go to the kind pastor who preached that sermon, and tell him what you have told us here, and then stand up before men, and enroll yourself under the banner of the cross? I am afraid it is a dangerous thing to stand long where you are. How often we hear of men who came out in meeting, and resolved to live a Christian life! The world looks on, and wonders whether they will hold out or not. I do not know that we can blame the world, for the world has seen many start; but, alas! by far too many did nothing more than start. The question is often asked, a few weeks afterward, "Did he go right ahead and unite with Christian people, and keep on?" So you see, even the world seems to know what the proper thing to do is. If you believe the Bible, if your trust is in your Savior, why stand still? If you love God, you are in duty bound to love your fellow-men also; and if you love them, why stand off at arm's length, or further, and hold aloof from them? For a good many years I have noted how this thing goes; and as the years pass on I am beginning to feel that a Christian, alone by himself, is almost as unsafe as a single bee would be, if he proposed to camp out, and not unite his fortunes with the rest of the hive. Come in, dear brother; help us, and let us help you, before Satan gets hold of you again, and you are lost for ever.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, APR. 15, 1884.

Behold how good and how pleasant it is for brethren to dwell together in unity.—PSALM 133:1.

DRONE-TRAPS.

FRIEND ALLEY informs us that he did not see friend Black's description of his drone-trap, given in our Sept. No. for 1883. He also says that drone-traps were patented as long as 30 years ago.

BASSWOOD TREES FOR PLANTING.

WE take pleasure in saying that we have received a sample hundred of the basswood-trees sent out by friend H. Worth, of Borodino, Onondaga Co., N. Y. The trees are very much larger than we expected at so low a price; are strong and thrifty, and are well packed for shipment.

MRS. COTTON.

COMPLAINTS are coming thick and fast in regard to Mrs. Cotton, but mostly because of the great price she charges for such meager directions for making the kind of hive she recommends. I am sure, dear friends, no honest, healthy business can ever be built up by taking so large a sum of money for so small an amount of information.

WHAT IS YOUR NAME, AND WHERE DO YOU LIVE?

I AM afraid I shall have to say to the juveniles, that unless they give the full address on their letters, we can not send them a book. "Ida" says, that of late she is obliged to hunt over the envelopes, and go to the postal guides, to see where the books should go. Now, ought any little friend to have a book who can not take the trouble to tell plainly where we are to send it, county and all?

UNTESTED QUEENS.

UNTIL further orders we will pay one dollar each for untested queens. This price will not probably hold good after May 1, although demand and supply will have something to do with it. These queens will be introduced into our own apiary, and we expect them to be raised from imported Italian mothers, or from select pure Italians. If you do not send us good ones, we shall probably not want any more from you.

UNTESTED VS. TESTED QUEENS.

A GREAT many are wanting to sell us tested queens just now; but to tell the truth, I would rather have an untested queen from a reliable breeder, than a tested one. Do you want to know why? Tested queens are, all of them, last season's rearing. Untested queens are this spring's raising, and have all their lives before them. Therefore I would rather run the risk of their being pure, than to have a tested queen after at least a third of her life has been spent. I believe the friends generally feel as I do about it, or else they wouldn't pour in their orders for untested while so very few want tested queens. It is a little singular, the way this thing has swung around, in spite of all the arguing we have done on the subject.

FILLING ORDERS PROMPTLY.

AT this date, April 15, we are prepared to fill orders promptly for almost every thing except sections. Even with a large new dry-house, embracing all the latest improvements, we are unable to get our basswood dried as it should be, to keep up with the demand for sections. The best we can do is to fill each order in its turn; and in making an order, please say whether we shall send your other goods right along, or have them wait for the sections. As we are unable to supply the demand for the regular Simplicity sections, we can not undertake to make odd sizes until we catch up. Now, if you prefer to have your money returned, rather than wait your turn on sections, just drop us a postal, and it will go right back at once. At the rate we are now turning out sections, we hope to catch up with orders in three or four weeks. Of course, we can not tell how fast they may come in.

CHRISTIANITY AND TOBACCO.

THE little book on tobacco, entitled "A Dose of Truth," of which we gave a favorable mention a short time ago, we are now enabled to offer for sale. Price 20 cents, or $1.75 for 10, or $15 per 100. If wanted by mail, 3 cents each extra. Friend Bracken, the author, has placed a number of these books at my disposal, to be given away to every one who breaks off using tobacco. Or it will be sent by mail post-paid to any store-keeper who stops selling tobacco. In fact, a great part of the book is written to Christian people who deal in tobacco and cigars. Whoever gets a book for giving up tobacco will probably lend it to his friends, and the great array of facts therein given can not fail to convince any candid reasoner that the use and sale of tobacco is a terrible sin in a Christian land, and among Christian people.

THE FLOOD IN LOUISIANA.

Friend Viallon wishes us to give place to the following, that his customers may not blame him undeservedly:

> On account of the N. O. & Texas Pacific R. R. and the Morgan, Louisiana & Texas R. R. being under water since 30 or 40 days, it has been with the greatest difficulty that I have been able to get Texas freight off; and as it will probably be as long before these roads are in running order, I would advise my Texas customers not to send me any orders, if they don't wish to be delayed. P. L. Viallon.
>
> Bayou Goula, La., April 8, 1884.

A customer has sent us a copy of Mrs. Cotton's drawings and specifications, asking us to give figures on such a hive. These drawings probably cost him $3.00 (and one dollar more for the book); but Mr. Gray and I have both examined them, and it would be toward a week's work for a good mechanic to figure out and make such a hive, if he could do it at all from these brief drawings. The whole 7 pages contain only 72 lines of printed matter, by way of explanations. The drawings, book and all, do not begin to give the information in regard to making bee-hives that is ordinarily found in almost any text-book on bee culture. The hive is an exceedingly complicated affair, with old-fashioned glass honey-boxes (with holes bored in the bottom) in place of the modern sections so generally now in use. Mrs. Cotton's revenue, probably a greater part of it, consists in getting the four dollars for these drawings and her little book. I have written to her privately, remonstrating, and I put this in as a public remonstrance against giving or taking such a sum of money for such meager instruction.

CIRCULARS RECEIVED.

J. F. Hixon, Lock 53, Md., sends out a one-page circular of queens.

Wm. Little, Marissa, Ill., sends an 8-page circular of queens, bees, and hives.

H. J. Hancock, Siloam Springs, Ark., sends out a one-page circular of queens.

B. F. Carroll, Dresden, Texas, sends out a 4-page circular of bees and queens.

G. Rouse, Wahoo, Neb., sends out a 2-page circular, principally in regard to L. hives.

J. I. Parent, Charlton, N. Y., sends us a 2 page price list of bees, fdn., and other implements.

F. H. Chamberlin, Dexter, Iowa, sends out a 6-page circular, principally in regard to the Given foundation.

J. M. Hambaugh, Versailles, Ill., sends out a 4-page circular. His specialty is Simplicity-Langstroth bee-hives.

G. H. Knickerbocker, Pine Plains, N. Y., sends us an 8-page circular pertaining to bees and general supplies for the apiary.

G. W. Stanley & Bro. send out a circular pertaining to the automatic honey extractor, described in this number. Prices $18.00 and $20.00.

J. T. Fletcher, West Monterey, Pa., sends out a 24-page circular, mostly devoted to poultry, although the last four pages treat of bees, queens, and hives.

T. Graham Ashmead, Williamson, Wayne Co., N. Y., sends out a circular of queens and Simplicity bee-hives. Friend A. has a branch apiary in Florida.

T. S. Hall, Kirby's Creek, Ala., sends out a 24-page price list and circular of bees, queens, hives, etc. Friend Hall has furnished us with early queens for several years.

We have just printed for D. E. Best, of Best's, Lehigh Co., Pa., a 12 page list of apiarian implements and supplies, bees, queens, farming implements, etc. From the way friend Best talks, we judge he is showing the inhabitants of that section something new in regard to apiculture. Send for one of these circulars.

It is with much pleasure that we notice that our old friend J. H. Nellis has again resumed the supply business. He sends out a very neat circular, dated March, 1884; and although he does not say so, we presume he is prepared to make every thing straight and pleasant, in regard to the unsettled business when he dropped bees and supplies a year or two ago.

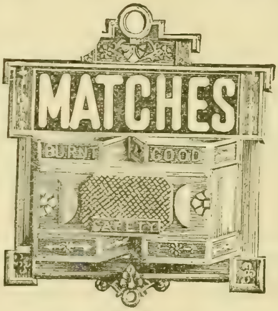
Now, friends, there are many things which can be had to much better advantage near home than by sending off long distances. So far as we know, the above-mentioned friends are reliable, and I think it would be advisable to get your bees and queens from some place near home, so far as you can. If not too far away, it would perhaps pay for many of you to visit these friends who publish circulars, and are prepared to furnish information as well as bees, hives, and implements.

CONVENTION NOTICES.

The fourth annual meeting of the Western Bee-keepers' Association will be held in Independence, Mo., Thursday and Friday, April 24 and 25, 1884.
C. M. Crandall, Secretary.

A meeting of all persons interested in organizing a bee-keepers' association will be held at Randolph, Cattaraugus county, N. Y., Tuesday, May 6, 1884. The territory will embrace Western New York and Northwestern Pennsylvania, and it is expected a large number of bee-keepers will be present.
W. A. Shewman.

THE NEW
LUMINOUS MATCH-SAFE.



The above little implement has been sold for 25 cents; but by purchasing a lot of ten gross, directly from the manufacturers, I am enabled now to put them at only 15 cents; and in lots of 10, $1.20; 100, $10. If wanted by mail, 4 cents extra for postage. The word *matches* shows in the day time in large plain white letters, on a bronze background. In the night these letters shine with a pale purplish light, plainly to be discerned in any part of the room. The match-holder is a beautiful ornament by daylight, and more beautiful in the darkness of the night. There are two apartments — one for good and one for burnt matches. There is also a place for scratching the matches; and where safety matches are used, as in factories and other similar places, a couple of clasps hold the proper material conveniently near for igniting them. This little match-safe is beautiful as an ornament for your homes, pretty for a present, and very convenient for strangers going into a strange room in the dark; or if you choose, for strangers who wake up in a strange room in the dark, and want a light quickly.
A. I. ROOT, Medina, Ohio.

BeeswaX

CRUDE OR REFINED, ALWAYS ON HAND, AND ORDERS PROMPTLY ATTENDED TO.

RICHARD MERKLE,
Wax Bleacher and Refiner, No. 700 North 2nd Street,
ST. LOUIS, MO. 8-9d

I. X. L. EXTRACTORS

$7.00 to $10.00. Cold Blast Smokers (mail free), $1.00. Plymouth Rock Eggs, per sitting, $1.50. Circular free. W. C. R. KEMP, Orleans, Ind. 7-8d.

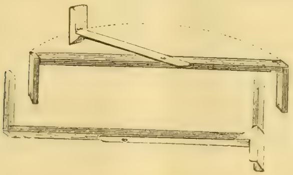
DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

HOLY-LAND,
CYPRIAN, AND ALBINO
Queens & Bees.

We have a strain of Syrian bees that are very light, prolific, great honey-gatherers, and as gentle as the average Italians. The different breeds raised in separate apiaries. Tested queens now ready; untested queens by the first of May. Price, one-fourth more than Root sells Italians. Italian queens, and bees by the pound, same price as Root's. Send for circular.

H. B. HARRINGTON,
7-8-10-12 **MEDINA, OHIO.**

HOWES'
Reversible Frame Support.



Send address for circular to C. J. F. HOWES, Adrian, Mich., or E. T. LEWIS & CO., Toledo, O., manufacturers of all kinds of Apiarian Supplies. 8tfdb

---

ONE-PIECE SECTIONS $5 PER M.

LANGSTROTH, SIMPLICITY, AND CHAFF HIVES, COMB FOUNDATION, SMOKERS,
AND A FULL LINE OF
APIARIAN SUPPLIES.

DERR & KREIDER, STERLING, WHITESIDE CO., ILL,
7-12b

BEST SUPPLEMENT FOR 1884.

Watch free to everybody who will send me an order for ½ dozen tested, or 1 dozen untested queens. The world-renowned Waterbury watch and one queen, only $4.00. Watch alone, $3.50 by mail. I think I now have the very best strain of bees that have ever been offered at so low a price. It is just the bee that attracts everybody's eye; viz., for beauty, pleasure in working, and large yields of honey. Everybody wants them. Italian tested queen, in April, $4 to $6; May, $3 to $4; June, $2.50 to $3.50; July and after, $2 to $3. Untested, in April, $2; May, $1.50; June, $1.25; July and after, $1. Albinos and Holy-Land queens, my favorites, one-fourth more than Italians.

Dealer in scales, comb foundation, Simpson honey-plant seeds, or roots; 70-cent smokers, canary birds, brown Leghorn eggs, $1 per 13, and U. S. honey-extractors. Wax wanted. Send for circular.
8d D. E. BEST, Best's, Lehigh Co., Pa.

EMPTY COMBS.

I have about 500 empty combs in L. frames which will sell cheap; also a lot of 4¼x4¼ sections with combs drawn out; empty sections, frames, Simplicity and L. hives, extractor, etc. All at very low prices. Address
O. A. HOAG,
7tfdb. West Union, Cass Co., Mo.

Dadant's Foundation Factory, *wholesale and retail.* See advertisement in another column. 3btfd

---

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd. Hamilton, Hancock Co., Ill.

ITALIAN QUEENS

Sent by return mail. My motto is, "A fair equivalent for every dollar received." Prices:

Untested queens from imported mother, April and May, $1.50; June and July, $1.25. April and May, per dozen, $15.00; June and July, per dozen, $12.00. I will send GLEANINGS one year, and a queen, for $2.00. Send money orders on Hillsboro.
7tfdb. H. A. GOODRICH, Massie, Hill Co., Texas.

J. W. ECKMAN,

RICHMOND, FORT BEND CO., TEXAS,
DEALER IN
PURE ITALIAN BEES AND QUEENS.
7tfdb *SEND FOR CIRCULAR.*

HOW TO START IN BEES

And make 'em pay. See OLIVER FOSTER's circular on bees, queens, and fdn. molds.
5tfd b MT. VERNON, Linn Co., IOWA.

EARLY BEES!

BEES of all kinds at prices to suit purchasers, at all seasons of the year.

After July 1st, almost given away.

A. W. CHENEY,
5tfdb Kanawha Falls, W. Va.

BEES FOR SALE!

A large lot of Black Bees for sale cheap, all in good condition. Address P. H. KING,
12½tfd-b Henderson, Henderson Co., Ky.

SEND FOR OUR CIRCULAR!

We keep in stock a full line of bee-keepers' supplies, Simplicity and chaff hives, one-piece sections, crates and cases, extractors, smokers. Given foundation, and BEES AND QUEENS. Circular free.
7-12db REYNOLDS BROS., Williamsburg, Ind.

FOUNDATION

Recent valuable improvements in our machinery enable us to make bottom prices. Our foundation is unexcelled by any made in the United States. *Orders filled in rotation.* GENERAL SUPPLIES.
M. C. VON DORN,
7b.tfd. 820 S. Avenue, Omaha, Neb.

DON'T FAIL to send for circular of bees and queens, to CHAS. D. DUVALL, Spencerville, Montgomery Co., Md. 8tfd.

One-Piece Sections.

We now make them with the V groove. This makes folding expeditious, and with less breakage. If any break they are easily nailed. They fold exactly square and no pressure is needed to hold them so. Our sections are pronounced "first-class," yet we sell the 4¼x4¼x1⅞ at the low rate of $4.50 per thousand. For $4 we will send a thousand as sample. Send for catalogue and prices of Sections, Berry-Crates, etc. Address

BERLIN FRUIT-BOX CO.,
8d BERLIN HIGHTS, ERIE CO., O.

BEST IN USE.

Bee-Keepers, Send for our latest Price List of Foundation. Orders promptly filled, and Satisfaction Guaranteed. Try our Fdn., and you will use no other. Do not fail to send for Circular. Address

S. B. WHEELER & SON,
8d **UNION CITY, PA.**

NOW READY TO GIVE AWAY!

3000 New Price Lists of Italian Bees and Queens. Send for One.

W. S. CAUTHEN, PLEASANT HILL, LANCASTER CO., S. C.
8-10-12d

STRAWBERRIES!

124 FINE PLANTS FOR ONLY $1.00.

25 plants each of Wilson, Sharpless, Cumberland, and Bidwell, and a copy of a large seventy-page book, telling how to grow all kinds of Fruits, Flowers, etc., also how to destroy all insects that trouble Trees, Fruits, House-Plants, etc., all of the above for only $1.00, and every person who names this paper and sends order will receive FREE 12 plants each of James Vick and Manchester, the leading new varieties. Show this offer to your neighbors, and get up a club. $50 in cash to the three persons sending the most orders. E. W. WELD, Nurseryman,
8d Jamestown, N. Y.

Tested Queens a Specialty.

Have been handling Italian Bees for 24 years; so you see that when you get my $2.00 tested queens in May and June, you buy of one who knows the bee. Untested for the same months, from imported queen, $1 00. EUGENE DIEFENDORF,
8-12db Moniteau, Moniteau Co., Mo.

WANTED.—To exchange, Italian Bees and Queens for a second-hand fire-proof safe, a Jersey cow, or Simplicity hives in the flat. With description and terms, address
8d C. WEEKS, Clifton, Wayne Co., Tenn.

NUCLEUS COLONY with Italian queen after July 4th, with 3 L. frames, $3.00; or 2 L. frames, $2.50. Italian queens $1.00.
2c. J. L. HYDE, Pomfret Landing, Conn. 12½tfd.

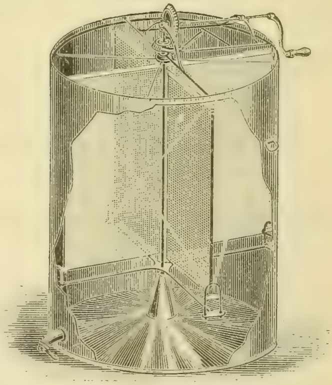
STANLEY'S AUTOMATIC HONEY-EXTRACTOR

REVERSES THE COMBS BY REVERSING THE MOTION OF THE CRANK.

THE COMB-BASKETS ALWAYS STOP IN MOST CONVENIENT POSITION FOR PUTTING IN OR REMOVING COMBS.

Each Extractor has a Long strong Crank, so that the Machine is Easily Operated, and a Brake to stop the Motion is so Arranged that it Can be Managed with the Left Hand.

They have best Vertical Gear, with Two Bearings for Crank-Shaft.



All cans are made from XXXX tin; or if desired, we will make them from heavy galvanized iron at same price. The cylinder of can is all in one piece. We make all our Extractors to take 2 or 4 combs, and they can be changed from one to the other in one minute. We make the Automatic to hold any size of frame. We challenge any extractor now before the public to do one-half the work of our 4-frame machine. Do not pay out money for inferior machines, but write us for terms, as our prices are reasonable.

We want a good *live agent* in every bee-keeping locality, and especially in *Cuba* or San Domingo, to whom we will pay a liberal commission. If you have not already received our circular giving full description, send your name on a postal at once to

G. W. STANLEY & BRO.,
WYOMING, NEW YORK.

ESTABLISHED 1855.

BEES HEADQUARTERS WAX

We have constantly on hand a large stock of Domestic and Imported beeswax in original shape, which we offer to manufacturers of Comb Foundatation at lowest prices. Write to us for prices. Address

R. ECKERMANN & WILL,
Beeswax Bleachers & Refiners, SYRACUSE, N. Y.

7-14d-b

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Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have 8 black and 15 hybrid queens to sell; will take catalogue prices. HENRY WRIGHT,
Selma, Dallas Co., Ala.

I can supply black or hybrid queens, about 50, at A. I. Root's prices. DR. J. A. GUNN.
Casky, Christian Co., Ky.

I have two black queens for sale at the usual price. Safe arrival guaranteed. W. J. CROWLY.
Roanoke, Denton Co., Texas.

I have 30 colonies to Italianize. Would like to sell 20 black queens. Will sell only the best. Ready now. Price 40 cents. J. P. CONNELL.
Hanover, Hill Co., Texas.

I have 15 or 20 black queens for sale in May for 40 cents each, and 20 hybrids for 60 cents each.
GEO. F. TYLER.
Honey Grove, Fannin Co., Texas.

One dozen brown or German queens for sale. Those ordering immediately can have them for 40c each, or three for $1.00. GEO. P. KIME.
Evansburgh, Coshocton, Co., Ohio.

I have a lot of good laying hybrid Italian queens, ready to send by mail now, for 75c each. Safe arrival guaranteed. Send cash and address
J. W. WINDER, Thibodaux, Fourche Par., La.

FOR SALE!

Eleven Hundred Pounds of Beeswax.

J. C. CONVERSE,
8-9d Ravenna, Portage Co., Ohio.

Italian Bees and Queens!

Full colonies in one-story Simplicity hive, standard L. frame (as made by A. I. Root), in May, $10; June, $8 00; July and after, $7.00. Hybrids, $1.00 less. Three-frame nuclei, L. frame, May, $4.50; June, $3.50; July, $3.00.

Dollar queens, June and July, $1.00; after, three for $2.00. All queens from imported stock.

Bee-veils, best kind, 50c postpaid. Satisfaction guaranteed. D. S. BASSETT,
8-9d. Farnumsville, Worcester Co., Mass.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2,00 per year

Those whose names appear below agree to furnish Italian queens for $1,00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 7tf
*Paul L. Viallon, Bayou Goula, La. 7tfd
*S. F. Newman, Norwalk, Huron Co., O. 7tfd
*Wm. Ballantine, Sago, Musk. Co., O. 7tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 9tfd
*Jas. A. Nelson, L. box 83, Wyandott, Wy. Co., Kan. 6-5
*Thos. H. Trice, New Providence, Mont. Co., Tenn. 5-15
*D. A. McCord, Oxford, Butler Co., Ohio. 5-15
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3
*S. G. Wood, Birmingham, Jeff. Co., Ala. 7tfd
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*J. W. Keeran, 106 Washington St., Bloomington, McLean Co., Ill. 7-17
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5
*S. C. Perry, Portland, Ionia Co., Mich. 9tfd
C. Weeks, Clifton, Wayne Co., Tenn. 9-19
Will True, Chadwell, Clatsop Co., Oregon. 9-7
W. H. Proctor, Fair Haven, Rutland Co., Vt. 9-17
Dr. J. A. Gunn, Casky, Christian Co., Ky. 9

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 7tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
J. W. Newlove, Columbus, Franklin Co., O. 7
C. P. Bish, Petrolia, Butler Co., Pa. 9-17

Given Comb Foundation a Specialty.

Also apiarian supplies, circulars, and samples free.
9-11d G. H. KNICKERBOCKER, Pine Plains, N.Y.

1884. 6 Warranted Queens for $5.00. 1884.
Write for circular.
tfd. J. T. WILSON, - MORTONSVILLE, KY.

Dadant's Foundation Factory, *wholesale and retail.* See advertisement in another column. 3btfd

GREETING!

To my many old customers and the public: I am glad to announce that I am again to the front in the manufacture and sale of all desirable kinds of comb foundation. Wholesale and retail prices on application. J. H. NELLIS,
9d Canajoharie, N. Y.

BEE-KEEPERS, I will sell COMB FOUNDATION at 50c per lb., for brood, and 55c for light. All made of refined wax. Send for samples. Supplies of all kinds kept on hand.
9 A. F. STAUFFER, Sterling, Whiteside Co., Ill.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

NEW YORK.—*Honey.*—We have had a good demand for comb honey in 1 and 2 lb. sections the past three weeks. We find throughout the past season that the demand for 1-lb. sections has been greater than for the 2-lb. At present our market is well supplied with 2-lb. sections of comb honey, while the same is entirely out of 1-lb. sections. This goes to show that the 1-lb. sections are exceeding the 2-lb. in sales. This we think is worthy of bee-keepers' consideration. While we do not advise bee-keepers using the 2-lb. frames to make an entire change to 1-lb., we do believe it would be advisable for them to produce more of the 1-lbs., so as to meet the increasing demand for this size package. We quote as follows:

Fancy white-clover in 1-lb. sect's,	16 @17
Fair to good " " " "	12 @14
Fancy white-clover in 2-lb. sect's,	14 @15
Fair to good " " " "	12 @14
Fancy buckwheat " 1-lb. "	13 @14
Fancy " " 2-lb. "	12 @13
Ext'd honey, best white-clover, in kegs or small bbls.,	8 @ 9
" " " buckwheat, " "	8½

Beeswax is scarce, and sells readily at 35 to 37c.

McCAUL & HILDRETH,
Apr. 23, 1884. 34 Hudson St., Cor. Duane, N. Y.

ST. LOUIS.—*Honey.*—Our honey market continues very dull, and we think will continue so until the new honey crop commences to come to market. Extracted honey in barrels and half-barrels is worth from 6½ to 7c for a choice article in liquid state. Candied or low-grade honey, 6 to 6½c in a retail way. No round lots could be sold, except at lower prices. There is very little choice comb honey in the market. It is worth in good order 14 to 15c; white clover, 18 to 20c at retail. No trouble to sell fancy white clover.

Beeswax.—Stock of beeswax small; not much arriving, and demand falling off. Quote prime yellow at 35c.

W. T. ANDERSON & CO.,
April 24, 1884. 104 N. Third St., St. Louis, Mo.

MILWAUKEE.—*Honey.*—The demand for honey in this market is only moderate, and prices fairly sustained, and the stock of choice comb gradually being brought low. Choice 1-lb. sections, 15@16c; choice 2-lb. sections, 14@15c. Extracted, white, in kegs, 8½@9c; extracted, white, in tin, 9@10c; extracted, colored, in pails, 8@9c.

Beeswax wanted at 30@32c. A. V. BISHOP,
April 21, 1884. 81 & 83 Detroit St., Milwaukee, Wis.

CLEVELAND.—*Honey.*—There is no change in honey market. Best 1-lb. white continue to move off most readily at 18c., the 2-lbs. move more slowly at 16@17, and second quality is not in demand. Extracted, no sale. *Beeswax* wanted at 35c, but no supply.

A. C. KENDEL,
Apr. 23, 1884. 115 Ontario St., Cleveland, O.

CHICAGO.—*Honey.*—Honey is sold in a small way nowadays, package at a time. Prices are easy; 10@16c is the range on comb honey. Extracted is not meeting with any demand; have never known the demand to be so light; 7@8c is the range. *Beeswax* scarce at 30@37c. R. A. BURNETT,
Apr. 22, 1884. 161 South Water St., Chicago, Ill.

DETROIT.—*Honey.*—There is but little change in the honey market since last reports. If any thing, the demand is even less since the advent of warm weather. A good article is offered at 16@19c, with but few buyers.

Beeswax scarce at 35c. A. B. WEED,
April 26, 1884. Detroit, Mich.

NOTES FROM THE BRIGHT-BAND APIARY.

FRIENDS:—The last time I appeared under the above head was more than a year ago, at which time, as some will remember, I laid much stress upon the superiority of my queens. Well, now for the result: Quite a number of queens were sold, and the next season (which was last summer) still a greater number were sold; in fact, I had orders for more than I could raise; consequently I have removed from my old place (Greenville, Tenn.), to this place, that I might raise earlier queens, and have facilities for raising a greater number of queens. I can now command 500 colonies in the queen business, if necessary. My intention is to produce queens not excelled by any. Price, untested, but laying, in April, $1.40 each; in May, $1.25 each; 90 cents each the rest of the summer. Tested queens, in May, $2.00; the rest of summer, $1.75. The above are from imported Italian queens; queens bred from Kingsley's improved bees, same price. Kingsley's improved bee is simply a cross between the Cyprian, Italian, and Holy-Land bees; and in reality they are ahead of any race, both for color and honey-gathering propensities. Sample live workers sent for 3c to pay postage.

All orders promptly attended to; safe arrival guaranteed; full directions sent with each queen.

Address CHAS. KINGSLEY,
6-14bd Benton, Bossier Par., La.

75 STANDS OF ITALIAN BEES FOR SALE.

Prices, $5.50 each, with 10 combs below and above; without upper story, $4 50. Frames 17¼x9⅛. Nice combs — little drone. Bees bred with care from importd and choice homebred queens. Reasons for selling, have other business. Must be sold by June 1, 1884. Safe arrival by express guaranteed.

C. KENDIG,
7-9d. Naperville, DuPage Co., Ill.

J. P. MOORE,

Morgan, Pendleton Co., Ky.,

has again succeeded in wintering all his bees, and is better prepared than ever to furnish nuclei and full colonies. He keeps none but Italians; and, that he has a hardy strain, is proved by the fact that he has never had a colony to fail to stand our severest winters. He will sell full colonies, Italians, during May, in 2-story Simplicity hive, on 9 L. frames, at only $7 00 per colony; hybrids, $6.00. For full particulars, and price of nuclei, queens, etc., send for circular. 9d

PRICE THEM YOURSELF,

And send to me for hybrids by the pound in May and June. Will fill the order, or return the money.

9d **M. L. WILLIAMS, Vanceburg, Ky.**

CHAFF HIVES CHEAP

I manufacture my hives (Root pattern) from first common lumber, in a finished and workmanlike manner. Send $2.50 for sample hive with frames. They are neatly painted and lettered. Satisfaction guaranteed. Send for price list of comb foundation and Apiarian Supplies.

EZRA BAER,
9 11d STERLING, WHITESIDE CO., ILL.

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GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES, HONEY, & HOME INTERESTS.

Vol. XII. **MAY 1, 1884.** **No. 9.**

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NOTES FROM THE BANNER APIARY.

NO. 54.

SELLING HONEY.

THE one who teaches bee-keepers how to sell their honey at remunerative prices, performs fully as important a service as he who teaches them how to secure large crops. I know that the subject has been worn threadbare; but I *do* think that bee-keepers neglect that best of markets, the home market; or, if they do attempt its development, they go at it in a "half-hearted" manner. After having induced some grocer to buy their honey, or to sell it on commission, many bee-keepers seem to think that *their* responsibility is at an end; if they have effected a sale, their thoughts are apt to flow something like this:

"There! that is off *my* hands, and I have my pay for it; I don't know what success *he* will have in selling it, but that is *his* lookout, not mine."

Never was there made a greater mistake. Business transactions are seldom long continued between two parties, unless there is satisfaction at both ends; and I tell you that these grocers who have never handled much honey need some looking after, or there will be some dissatisfaction. Let me illustrate. I once left four dozen pint and quart pails of honey with a grocer, to be sold on commission. The pails were bright and shining, and the labels neat and clean. When I called, two weeks later, about one-third of the honey had been sold, and every thing appeared to be passing off satisfactorily. A month passed, and I called again. Not seeing the honey, I said:

"Why, is that honey all sold?"

"No," was the reply; "it doesn't seem to sell so well as it did."

Just then my eye caught sight of it; the pails were stacked up on the floor, at one end of the counter. Each time when the floor had been sprinkled, preparatory to sweeping, a few drops of water had been accidentally thrown upon the pails, the dust had been allowed to accumulate upon them, and I didn't wonder that "honey didn't sell as well as it did."

Now, had I "spoken my mind," I should have said, "My dear sir, have you kept grocery as long as you have, and not yet learned that goods must be kept neat, clean, and attractive if you expect to sell? Or is it because the goods are not *yours* that you treat them as you do?" But I have learned that it is best not to find fault in such cases, so I simply said:

"These labels are becoming soiled; when I come again, I think I had better bring some new ones, and re-label them."

He looked at the pails musingly, and finally said: "They *do* look a little soiled, that's so; we were crowded for room, and I didn't know where else to put them."

The next week I called with the new labels, and asked for a damp cloth with which to clean off the dust, and a clerk was directed to get a dish of water and a cloth, and to *help me*. While the clerk washed up the pails, and I stuck on the new labels, we had quite a chat; and I improved the opportunity by giving him the best instructions that I could in regard to the care and sale of honey. When the work was finished, and the pails neatly arranged on a shelf near the door, the proprietor came forward and said:

"Well, they do look better, that is a fact, and we will try to keep them up off the floor after this. We are going to have some more shelves put up in a few days, and then we can put them up again where customers can see them."

Now was an opportunity to say something, and I improved it. There isn't room to tell one-quarter what I said, but I commenced something like this:

"Yes, that's the point; honey is not a staple; people don't come here regularly to buy it, as they do sugar, tea, coffee, tobacco, flour, etc. They seldom buy honey until they see it, hence it should be kept in sight."

Need I say that the next time I called, "honey had taken a new start"?

It requires considerable tact, as well as patience and perseverence, to educate some of these grocerymen. It will not answer to talk to them as though they knew nothing, while you knew every thing. They should be treated with respect; but tact should be exercised, and no opportunity of "educating" them should be allowed to slip by unimproved. Take pains to convince them that you are telling them the truth, and thus furnish them with arguments with which to meet the objections and questions of customers.

Another point requires attention, and that is, honey should be put up in such shape that it will give the dealer no annoyance or trouble. Nothing will turn a groceryman against the business quicker than will dauby, sticky, leaky packages, or to be obliged to dip out extracted honey into the pails and pitchers of customers. Every retailer of comb honey should be furnished with a case having at least one glass side, and a door or cover that will shut close enough to exclude dust and insects. The Sturwold case is an excellent idea. Extracted honey should always be put up in the packages in which it is to be sold. In fact, every thing should be so arranged that the dealer has simply to hand out a package of honey, and drop the "change" into the money-drawer.

Please allow me to give another illustration. Having occasion, the past winter, to visit a town in which I had never sold any honey, I put a dozen and a half pint and quart pails of candied buckwheat honey into a valise, and took it with me. Upon my arrival I entered the principal store, and inquired for the proprietor. To my question, if I could be allowed to show him some honey, he asked if it was comb honey. Upon being told that it was extracted, he gave a short "No, I don't want any more of that nuisance in the store," turned upon his heel, and left me. Had I taken the offense, and left the store, that would have ended the matter; but I quietly waited for his indignation to subside, after which he came around where I was sitting by the stove, and said:

"I'll tell you, my dear sir, why I spoke as I did. About two years ago last fall we bought a large tin can of extracted honey. There was a molasses gate at the bottom to draw off the honey. At first all went pretty well, and we thought we had a clear thing; but the honey soon began to candy, and wouldn't run, and we had to dip it out like hasty pudding, and then shovel it out like lard. After a while we melted it up; but, not having things arranged for that business, it was quite a task; and when it candied again we melted it up and run it into jugs and pitchers and goblets and I don't know what all. I have a jugful up at the house now. We have sold some of the pitchers and glasses filled with honey, but it doesn't seem to 'take' very well, and we have quite a lot of it yet on hand." Here he brought me a goblet filled with candied honey, having a circular piece of writing paper laid upon the surface of the honey, and thickly covered with dust.

"I tell you, I have had more trouble and bother with that honey than it was worth; yes, twice over."

Having thus "freed his mind," he gave me a look that plainly said, "There, now, what can you say to that?" I said, "*My* honey is in such shape that, even if you should not sell it, it will cause you no trouble; but, after the experience that you have had, it would be folly in me to ask you to *buy* it; but if you can spare the time, I wish that you would look at it."

Oh, yes! if it would please me, he would *look* at it. When he saw what shape it was in, how it was put up, read the labels, and listened to my "story," it was plain to be seen that he was pleased. The clerks gathered around and expressed *their* ideas. They didn't know whether it would sell in that shape or not; it *seemed* as though it might; but if it didn't, it would give them no trouble, etc. Well, to cut the story short, permission was finally given to leave the honey to be sold on commission, which I did, leaving an invoice bill. In a week I wrote the firm as follows: "I am coming your way next week; shall I bring you any more honey?"

They replied, "Honey is all sold. Bring about as much as you brought before."

When I called again, the proprietor was in a mood to talk; but it was in a different "strain." He had never been so surprised as he was to see how that honey sold; it seemed to "take" right off, and gave them no trouble whatever. We had a long chat, and I gave him the best advice that I could in regard to selling honey. In a few days I called again at the store, when one of the clerks said:

"Did you bring us some more honey to-day, Mr. Hutchinson?"

"No, sir."

"Well," he replied, "that last that you brought is all gone."

I went home with an order for nearly all the honey that I had.

Of nearly every store in which my honey has found sale, I could tell a "story," but the two that I have given will serve to "point a moral."

PROPOLIS AND SECTIONS.

I can only repeat what I said in my former article, that all parts of my hives and fixtures, when they are smooth, and touch nothing, remain free from propolis, "varnish," or "bee-glue." We never have to scrape the top or bottom bars of our sections, for they are always clean. Had I known, last season, when Ernest was here, that this subject was going to be discussed, I should have called his attention to the matter, and shown *him* that, except where two surfaces met, every thing smooth remained entirely free from propolis. You also speak of putting sections upon the table after the bees have traveled over the woodwork, and varnished it. I was not aware that the woodwork was placed upon the table. Yes, with the Heddon case we can use only individual separators; but has it not been repeatedly proved, that we can dispense with separators? I use no separators, yet my honey was shipped by freight to the State fair at Detroit, received the first premiums in competition with separatored honey, was shipped home by freight, then carried 12 miles in a lumber wagon to our county fair, where it found a purchaser. Not a comb was broken. You think the Heddon honey-board too much machinery. Is it any more machinery than the perforated zinc honey-boards, or than separators? It is placed in position at the opening of the honey-harvest, and is not usually again disturbed until the season is over, while wide frames containing two tiers of sections, or side storing, require almost constant manipulation. You say, after we once decide upon the proper width for sections, you can see no great advantage in having different widths. True; but have we *yet* decided upon the proper width? The majority of sections in use are probably nearly two inches wide; but there now seems to be quite a disposition to use narrower sections, and to dispense with separators. With the Heddon case this is an easy matter; but with wide frames they (the frames) must be cut down, or else new ones made, and then, if the change is not satisfactory, and another change is desired, these frames must be thrown away or remodeled. You say that, with the combined crate, you can have any width by replacing the bottom-bars with such a width as is desirable. With the Heddon case there is no such annoyance. Last season I used sections 1 11-16 inches in width; and this season I shall change to 1½; but it necessitates no change in my fixtures.

W. Z. HUTCHINSON.

Rogersville, Mich., April 2, 1884.

Friend H., I did not know that it had been repeatedly proven that we can dispense with separators. Judging from the tons of tin we are constantly cutting up into separators, and much of it for old honey-producers, I should say that it was proven that there are many men of many minds on this as well as other questions, although I should be very glad indeed to have it demonstrated that we *can* dispense with separators. Very likely Heddon's honey-board is no more machinery than the perforated zinc honey-board; but it is a great deal thicker, and therefore pushes the sections so much further from the brood-nest. It seems to me I should prefer to have the sections as close to the brood-nest as possible. The L. hive has taken the place of all other hives, principally because of this very feature, if I am correct. Now, when we use an L. frame to get our surplus boxes close to the brood-frame, why should we put in a wooden honey-board and two bee-spaces besides, to push the boxes away off again? I once started to make a hive expressly arranged so as to have the sections lie right against the brood-combs, having a very thin top-bar to the brood-frame, in order to get them still closer. Although there are many obstacles in the way of doing this, I still think the object a desirable one.*— In regard to the zinc honey-boards, I do not think I should use them in getting comb honey, as we have never had brood enough in the sections to do any harm. With narrow sections and no separators, there might be more of a tendency for the queen to go up into the sections. I grant that, with the Heddon sections, you can have sections of different widths easier than with our arrangement.

HIVES AND CASES, ONCE MORE.

ALSO SOMETHING IN REGARD TO BROAD SHALLOW FRAMES CONTRASTED WITH NARROW OR TALL HIVES, COMPARATIVELY.

EDITOR GLEANINGS: — While making no claims in this behalf, I have been a bee-keeper much longer than Mr. Heddon; and although never a specialist, I have kept as many as 100 colonies; and when a boy, before movable frames were invented, I took from chambered box hives as high as 1400 lbs. of box honey in one year. I have seen or used almost all kinds of hives, and have made many experiments, and at great cost; and I will frankly say, that the moment I am satisfied that there is a better hive and case than the ones I have, I shall adopt them.

Let us go back to first principles a moment. I have always claimed for the L. hive and frame, as its prime point of excellence, the large surface above the brood-frames for surplus honey. Like Mr. Heddon, I have never succeeded with side-storing in the brood-chamber. I have had wide frames filled with new white comb, and with fdn. also, remain *empty* all the season in hives that were filled above. Now, we can not question Mr. Doolittle's success with that system as an adjunct; yet while he has succeeded admirably, I believe it to be more because of his splendid manipulation, and more particularly to his securing the *force* to do the work at the right time, than to his hive and plan of side storing. I think he, expert as he is, and a master, has never equaled, with the Gallup frame, such results as have been secured with the Langstroth.

We believe, many of us, that he could produce larger results with the L. frame. If it were to be a question, however, as between an L. hive 11¼ x 18½ inside, and a Gallup hive, I should choose the latter as the safer and more convenient. Surrendering the vital point of superiority so long claimed for the shallow frame by narrowing the hive, would have sounded very strangely six years ago, and it does now to me. No one can question Mr. Heddon's success with it. He could succeed with any hive. Nor can we question his preference for it. It is true, I have not used it, but I have observed its workings in another apiary. I do not agree with him, that tiering up is essential to success in any system, not if he means throughout the apiary. I notice that Mr. Doolittle, in his letter on page 93, touches upon this. Now, I do believe tiering up to be essential to the *highest* success with some colonies. A few years ago I thought the only sure way to bring bees right up into sections was to use the deep wide frames, or lift up brood between them. Put on in the center, and limiting the number to the strength of the hive, with division-boards, I never failed. Now, while, as a general thing, I think I can do as well by just at the right time circumscribing the brood-chamber to 8 frames, and forcing into cases, still I find some colonies will do better with the deep wide frames than in cases, and I use some of them every year. I have found the cases more convenient, and the honey more evenly built, than in wide frames. With the latter are used, of course, hanging separators, which are of wood. I have never found the least objection on account of the outside sections being over dummies, and there is a slight air-chamber between the case and outer hive.

It certainly is a mistake to suppose, that in cool nights, when the thermometer runs down to near 32 degrees, that heat is not lost through a thin wall of ⅜ in., or to assume that that is not a loss. Why! if not well covered, work above is often stopped. Having the cases well protected by good quilts we know to be a great advantage in cool nights and during cold rainy weather. But, one important point Mr. Heddon does not touch upon, and that is, to have the room for expansion below, to get the forces ready for the honey-flow. It is difficult to believe, that as powerful a force can be developed and held without swarming in an eight as in a ten frame hive. Possibly as great an aggregate result in honey from a given number of say 25 original colonies might be obtained by increasing stocks and withdrawing brood, but I doubt it; for I think it is true, that 50,000 workers at the honey-flow will store more in one hive that the same number in two hives. *Concentrated force counts.* J. W. PORTER.

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* The article on page 306, from friend Doolittle, was received after the above was in print. You will notice that his experience corroborates what I have said.

Charlottesville, Va., Feb. 21, 1884.

A SUGGESTION IN REGARD TO ARTIFICIAL FERTILIZATION.

SOMETHING ALMOST TOO WONDERFUL TO BE TRUE.

EDITOR GLEANINGS:—I have been a bee-keeper since 1872, and for the past eight years have made bee culture my exclusive business; and although I have been fully alive to all the many new ideas and improvements in the art, yet in no one particular direction have I given more thought and experiment than in that of controlling the fertilization of queens. I persisted in the belief that this could be done in some way; but my experiments in that direction invariably resulted in failure, and I had begun to look upon the occasional articles in the journals, on the subject of fertilization in confinement, with disgust, and upon their authors with pity; and but for an accidental circumstance, I should have continued to look upon a solution of this theory just as unlikely as that of perpetual motion.

In September, 1882, I removed some queen-cells from a queenless colony, with a view of placing them in nuclei; but in trying to separate two that were built close together, I accidentally cut into one (which, by the way, was barely sealed), exposing the larva at the base. As it was a fine cell, I thought I would try to save it, as I had often done before, by so placing it in the comb as to perfectly close the rupture; and as the place selected for it was in a small patch of drone comb containing unsealed larvæ, this was not difficult, as the drone larvæ in the broken cells assisted in forming a cement that did the job nicely.

Some days afterward the cell hatched, and the next day — about 18 hours after — *I saw the young queen deposit eggs!* I could hardly believe my own eyes; but the indisputable facts were before me. In vain I looked for a satisfactory solution to the phenomenon; but as I was positive I had made no mistake in my reckoning, I had no alternative but to accept the old, but none the more satisfactory one, that it was a "freak of nature," or, as is a more common term in bee culture, a "sport." Could it be possible that the embryo queen could have become fertilized while yet in the larval state by having come in contact with the larvæ of the drone, and remaining sealed with it during this period? It did not *look* very reasonable, certainly, but yet was it any more unreasonable than any other theory by which it could be explained?

The circumstance which at first seemed such a puzzle continued so to occupy my mind during the winter, that, notwithstanding my doubts, I determined to prove either the truth or falsity of the theory at my first opportunity, and so end the matter. Accordingly on the 20th of May, 1882, when swarming had fairly commenced, I performed the operation on three queen-cells, varying in age from four to seven days from the egg, inoculating them with drone larvæ of about the same age, and awaited results, which were such as to fully meet my most sanguine expectations. One fertilized in the natural way; one missing soon after hatching; and *the third laying after she had been but* 17 *hours from the cell!* This was enough, however, to prove that the thing could be done, and I was more than satisfied with the experiment.

Of course, this was followed by persistent experimenting during the entire season, and with extremely satisfactory results. I will simply say, that I have now in my apiary 53 laying queens, not one of which has *ever been out of the hive.* These queens are in every respect first-class; and although they remain in the cell about two days longer than the usual time (they hatch in about 18 days from the egg), they have commenced laying at from 15 to 20 hours after leaving the cell. There is no way of distinguishing their progeny from that of queens mated in the natural way, and they in every instance take the characteristics of the parents as faithfully. I sent four of these queens to as many of my bee-keeping friends, with a request that they test them carefully, and report to me; and in no case has any peculiarity in the queens themselves, or of their progeny, been observable.

I have no doubt but this statement will be received by many scientific bee-keepers with severe criticism, and perhaps more likely with scorn, even; but if there are any who prefer to accept theory rather than actual results, of course they have the privilege of enjoying their wisdom. For my part, I shall accept the practical, especially where it combines such numerous and valuable advantages over the theoretical.

In conclusion I will say, that I have never reared queens to any extent for sale, nor do I intend to do so; but as I expect to continue my experiments still further the coming season, I will send a limited number of *fertilized queen-cells* free of charge to such among our prominent bee-keepers as will signify their desire to receive them, and who will give them a fair and thorough test, together with a full report of the result for publication. B. F. LEE.

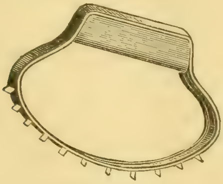
South Oxford, N. Y., Jan. 20, 1884.

Our friends will notice that this paper has been with us some months. At the first reading I had about as much faith in it as *I* should have had, had our friend claimed broadly that he had discovered perpetual motion. I confess that I feel something the same way in regard to it now; but when he tells us he has 53 queens fertilized by this process, that have never been outside of the hive, we are obliged to conclude that we do not know very much about these things after all, especially if it should transpire that this idea can really be put in practice by any one. I think I published an editorial a year or two ago about seeing a queen of but a few hours old go through the motion of egg-laying. Of course, no eggs remained in the cells after she withdrew her body. I do not see any difficulty in trying the above, unless it is in inducing the bees to accept and rear queen larvæ that has been thus "tinkered" with. If I understand friend L., all that is necessary is to scoop out some of the milky liquid food from drone larvæ, and put it upon the larvæ of the queen, and when she hatches she will not require fertilization. As a queen ordinarily does not lay until about 8 or 10 days on the average, we should be several days ahead, even if she remained 2 days longer in the cell. Will not some of our Southern friends report in regard to this immediately? You will observe, the matter can be tested in say ten days or less during the swarming season.

FASTENING FOUNDATION IN FRAMES AND SECTIONS.

SOME NEW IMPLEMENTS FOR THE PURPOSE.

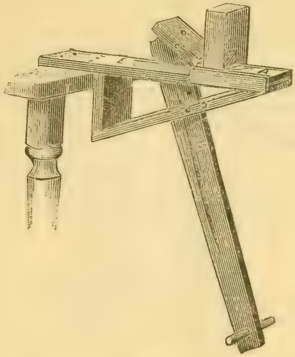
AFTER making and selling quite a number of the Easterday machines described on p. 418, Vol. XI., we found quite a tendency for the tin points to bend over. They sometimes also split out of the wood. On this account we have thought best to have them made entirely of metal, as in the cut below, each point being braced with a little bit of solder, so as to make coming loose an impossibility.



WIRE-IMBEDDER.

The machine is made of one single sheet of tin, made something like the handle of a tea-kettle, only narrower. Where the hand grasps it, a sort of " boss " is put in to make it easier to hold by. After the fdn. is laid on the wires, as we have several times explained heretofore, by a rocking motion of the tool the points are made to press the wire down into the wax. Of course, the wax must be warm enough so that the wire will sink readily. Our friend Oliver Foster sent us an implement some little time ago on the same plan, only the strip holding the points was on a straight line instead of a curve. This does the work nicely, but it needs a pretty powerful pressure to sink the points all in at once; while with the machine shown above, a small girl can do it readily without much fatigue.

Our next implement is a machine devised by Mr. Gray, and is an improvement on the Clark fastener. It came about in this way: One of the friends sent us a machine to be worked with two treadles, which did the work so nicely that I paid some ten or fifteen dollars for the privilege of making them for sale. Before we got to making them, however, Mr. Gray said he thought one treadle could be made to do the work, therefore we have the machine shown below:



GRAY'S MACHINE FOR FASTENING FDN. INTO SECTIONS.

To understand this you will need to remember that the block A slides in a groove, and is drawn back by a coiled spring E. To use it, lay on a section as shown in the cut; put your foot on the treadle until the hard-wood block comes down on to the edge of the fdn., mashing it firmly into the wood. You will observe, that the treadle is made of a hard piece of wood, cut out in such a way as to form a forked treadle, as it were—one piece holding the block that fastens in the fdn., and the other piece being pivoted so that, when the treadle is moved far enough, it strikes the sliding block A, and pushes the section and all clear out of the machine; in fact, the sections can be made to drop into a basket so as to save the time of the operator. This movement of pushing the section out from under the hard-wood block has the effect of bringing the fdn. straight up, just as we want it; and when the machine is adjusted properly, the sections will drop into the basket with the strip of fdn. hanging straight down, just as we want it to get nice comb honey.

Now, friends, you can have the first-mentioned machine made at any tin-shop by showing them this picture; and any tolerable carpenter ought to be able to make the latter machine in the same way. If I should stop right here, and not give prices at which we can make them for you, I suppose some of the brethren would think it a great deal better; and then I should not be open to the charge of using the pages of GLEANINGS as an advertising medium for our own wares. However, as a great many of you could not get them made at the prices we can make them for you, even if you did get them just right, I think I will hazard giving prices, even at the risk of having it thrown up to me that this latter item is only another " dodge." The price of the wire - imbedder is 15 cts. each; $1.25 for 10; $12.00 per 100.

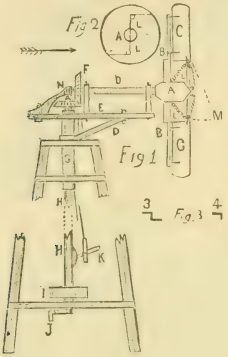
The price of Gray's starter-machine is 75 cts. each; $6.00 for 10; $50.00 per 100. We give the prices by the tens and hundreds for the benefit of supply-dealers.

* * *

HOW TO MAKE A HOME-MADE WIND-MILL.

FRIEND WHITE GIVES US FULL PARTICULARS AND DIAGRAMS.

THE description which I give below is of a home-made wind-mill—my own invention and construction. I use it to run a drag-saw, to saw my wood; also to run a buzz-saw for hive-making, a grindstone, etc.



Description is as follows:

A—Hub of wheel.
B—Shoulder on spokes, 10 in number.
C—Wings.
D—Hollow shaft.
E—Swinging crane.
F—Bevel gears, 5 to 1.
G—Pipe of wood or iron, around which crane E swings
H—Small shaft.
I—Pulley.
J—Crank.
K—Lever for gearing and ungearing mill.
L L—Springs.
M—Springs attached to corner of wings.

Figure 1 is a view of the mill as seen when in operation. A represents the hub of the power-wheel, which has ten spokes, held in their places by a wagon-wheel tire resting on shoulders cut in the spokes, as seen at B. These spokes extend beyond this tire, forming arms to which are hinged the wings C. This wheel is held in position by a hollow iron shaft D, resting in bearings on the crane E. F is a bevel gearing, 5 to 1. G is a stationary pipe of iron or wood, around which the crane E swings, allowing the mill to adjust itself to the wind, from whatever direction it may be blowing. H is a wooden shaft; inserted in its upper end is a short piece of hollow iron shaft, having its bearings in the top of the pipe G. I is a drum-wheel running a round belt to a grooved pulley on my buzz-saw mandrel. A pitman is attached to the crank J, the other end to a pendulum that has a roller on its lower end, running between two guides. My drag-saw is attached to this pendulum near its lower end. This arrangement works nicely. K is a lever to throw the mill out of gear. L L are wire springs attached to another tire having ten holes in it at equal distances apart, through which a ⅜ iron passes, that are attached to the corner of each wing seen at M. When the lever K is in the position shown in the cut, the springs L are allowed to operate on all of the wings, by means of the tire to which they are attached, turning them in a diagonal position in regard to the course of the wind.

To throw this mill out of gear, press the lever K down and in against the shaft H. This operation draws the wings back straight behind the arms to which they are hinged, allowing the wind to pass freely through. It has effect by means of a wire and chain which pass through the hollow shafts over a small pulley between the two gear-wheels (this chain has two swivels). Its course, after leaving the hub A, is shown in Fig. 2. It can be seen, that the motion of this mill is regulated greatly by the giving of the springs L. It can be further effected by centrifugal force by placing a weight on the lever K.

This mill is on a tower 25 feet high. The wings are four feet long, 17 inches wide, and sweep 12 feet.

I have had considerable experience with wind-mills, having built and put in operation three different kinds. I have letters patent on one, but none pleased me as well as this. Wind is a cheap source of power, and available to most people. It is evident, judging by the number of letters I receive asking for information in regard to my mill, that a good plan for a home-made wind-mill is sought by many. So, Mr. Root, if you will suggest any improvements on this mill, they will be gladly received.

F. C. WHITE.

Euclid, Cuyahoga Co., Ohio, April 14, 1884.

Thank you, friend White, for the full explanation you give of your wind-mill. I, too, when a boy, made wind-mills, and for many years of my life made them a study; and while the one you describe is very ingenious, and will without doubt work nicely, I should be inclined to question a little whether very many of our readers could make one cheaper than to buy it at a wind-mill factory. I see by circulars received that they are now offered quite reasonable; and such numbers of them are being used in various parts of the country that manufacturers have been enabled to give very nice work for a comparatively small amount of money. Where one has the shop and tools and plenty of time, however, together with the necessary mechanical skill, no doubt he could make one such as you describe, at quite a saving. I notice that you dispense with a vane entirely It seems to me there ought to be some sort of a weight on the opposite side of the tower, to counterbalance the weight of the wind-wheel. The great difficulty in using this wind-mill to run buzz-saws is the uneven speed, although one may get along with this very well, providing he does not have to employ hired help. In that case he might save money by having a steady, even, regular speed. Of course, there is a saving with wind-mills in not being required to hire an engineer, or to furnish fuel; but they seem to be adapted only to certain kinds of work. When I used to print GLEANINGS by wind power, I had my press so arranged that I could run it by a treadle when the wind lulled; and by proper mechanism; whenever the wind came up to speed it took hold of the press and gave me a chance to rest; that is, I could run the mill ahead of the wind whenever the wind was too slow. Perhaps such an arrangement might be adapted to a buzz-saw, or other similar work.

THE OTHER SIDE.

HOW I DECREASED FROM 41 TO 6.

THE charge against the bee-journals, that they publish the favorable side of bee-keeping in a rather exaggerated form, and that these publications are misleading, because the unfavorable side is not given, is, I think, well founded. But the fault is not entirely that of the journals; for those who fail, seldom report their failures for publication. It is but natural that we are not anxious to advertise our want of success. A failure generally implies a want of knowledge of the business, or of neglect to put that knowledge into practice; and a large majority of men are not especially anxious that the public should be advised through the papers of their ignorance or incompetency. On the other hand, every novice who meets with some success hastens to publish it to the world, and advertise his ability in the business; but if he fails next year, as is often the case, nothing is published about it. Queen-breeders and supply-dealers are also responsible, to a great extent, for the publication of highly colored favorable reports, to the exclusion of the unfavorable side, that they may entrap as many as possible into the business, to create a demand for their wares.

A few have reported the unfavorable side of bee-keeping, and have been placed under the head of "Blasted Hopes." I do not like the heading, and now protest against being put under it. You have "Reports Encouraging;" why not give us "Reports Discouraging," instead of "Blasted Hopes"? You need not fear having your pages crowded with unfavorable reports; for though there may be three failures to one of success, you will have a dozen successful reports to one of those who fail, for the reason that I have intimated.

But I proposed to tell how I *decreased* from 41 to 6 colonies in the season of 1882-'83. In the first place, I will say I am not a novice—not an A B C scholar (it may be that is the reason for my want of success). I have used the L. movable-comb hive for 20 years; Italian bees for 15 years; have been in the queen business; put out my circular with the deceptive statements about Italians gathering large quantities of honey from red clover, etc. I did it ignorantly then, but know better now. I have read such standard books on bee-keeping as Langstroth's, Quinby's, and Cook's; and I may be excused for not having read the A B C book, when I state that I have read GLEANINGS from the first number to the last, and at one time took two other bee-journals. I mention this simply to show that I try to keep posted in modern bee-keeping; but I have never made it my entire business, and consider myself only an amateur. I have kept bees for the love of them and the love of honey, and have generally met with moderate satisfaction, with some bad failures, as this report will show.

Instead of beginning with "spring count," without saying any thing about winter losses, as is usual, I should begin with fall count as I went into winter quarters. In the fall of 1882 I had 41 colonies; in the spring following, only six were alive—two very weak. How did I do it? I did not raise queens; did not extract from the lower story; I did not sell bees by the pound; I did not let them starve. They were all strong in bees, with an abundance of honey, leaving 400 or 500 lbs. in the hives; did not neglect to prepare them for winter in such a manner as I thought safe—some in various ways, in single and chaff hives, all on their summer stands as usual. "How did you lose them then?" Very easy; they just died. "Dysentery?" Yes, but I can't say what caused it or what killed them.

Again, the 6 colonies, the spring of 1883, I built up to 12; bought 2 colonies, and made 10 nuclei out of them with Holy-Land queens, which were easily built up into good colonies, with the quantity of combs and honey I had on hand; went into winter quarters with 22; now, April 10, I have 7 left, with the prospect of only 4 getting through.

Now allow me to show how my account stands in due form. Capital invested, Nov. 1, 1882:

10 chaff hives, at $3.50 each	$ 35 00
40 two-story hives, at $1.50 each	60 00
41 colonies with bees, combs with honey, at $5 00 each	205 00
Extractor, knives, bee-hats, etc	12 00
Total	$ 312 00

1882-'83.	ACCOUNT WITH APIARY.	DR
To interest on investment, 6%		$ 18 72
To 2 colonies bees bought		8 00
To 2 Holy-Land queens		5 00
To 1 bee-journal		1 00
To 35 colonies lost, at $5.00 each		175 00
Total		$207 72
1882-'83.		CR.
By 350 lbs. honey, at 15c		$ 52 50
By 14 colonies increase, at $5 00 each		70 00
		$122 50
Amount to balance		85 22
Total		$207 72

Showing a loss of $85.22, without counting time.

Now, I might make my account out in the usual way of Reports Encouraging—see two reports, GLEANINGS, March 1, page 171, by beginning in the spring of '83 without any account of capital invested, or winter losses, and show a very different result, and that without lying bad, by keeping back a part of the truth; thus, 6 colonies to start with in the spring.

DR.	
To 2 colonies bought	$ 8 00
To 2 queens bought	5 00
To 1 bee-journal	1 00
	$ 14 00
To balance	108 50
Total	$122 50
CR.	
By 350 lbs. honey, at 15c	$ 52 50
By 14 colonies* increase	70 00
Total	$122 50

Such a report would certainly be misleading. S.

Are you really sure the statements in your circular, about Italians and red clover, were deceptive, after all, friend S.? Italians *do* work on red clover, and gather large quantities of honey from it. The fact that some seasons they do not work on red clover proves nothing, for the same is true of almost all honey-producing plants. I think friend S. should have avoided a statement so unkind and uncharitable. It would seem to me evident, from the face of the report, that the locality is one where the bees gather honey unwholesome for wintering, or, at least, very often do. Had he not requested his locality as well as name to be omitted, I should have been pleased to give them.—It has never occurred to me that the expression "Blasted Hopes" deterred people from making reports; and if it is thought best, we will change it to "Reports Discouraging." You might charge me with making it my business to defend bee culture. Well, that *is* my business, and I expect it to be so long as I live, to defend bee culture against unfair or unjust charges. But, of course, the real difficulties and discouragements I want to have reported just as truthfully.

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*All are dead, but they must be charged to next year's account.

DEATH FROM BEE-STINGS.

IS IT LIABLE TO HAPPEN, AND WHAT CAN BE DONE WHEN SYMPTOMS SEEM DANGEROUS?

A FEW days ago I had a woman helping me in my apiary. She got stung once on the left upper eyelid. In ten minutes from the time she was stung, she was in most dreadful condition. When stung she went into the house and rubbed a little soda on the place. I went in after her, and found her lying, seemingly speechless. Her face was swelled, and her nose was completely closed, and her throat nearly so. She was in great pain. I at once applied a wet towel to her head, and bathed her face and hands in cold water. This gave no relief. I had her bathed in very warm water and applied towels wrung out of hot water and gave her about a gill of wine to drink. This gave relief. After continuing for some time she continued very sick until late in the night. I will try to give her feelings in her own words. First a dead feeling of feet and hands, as if her flesh were asleep, followed by being very sick, and a severe vomiting, and then pains all through the whole body. She said her very heart pained her, and this brought on palpitation of the heart, and she did seem to be in a dangerous condition for about six hours. I would state that she had helped me often before in the apiary, and I have seen her stung as often as five times, and she not leave the hive, and no harm, except a slight swelling afterward. Now, Mr. Root, as we have some doctors among our bee-keepers, can they tell us why this one sting came so near killing at this time, when before so little harm? Are we all liable to the same harm? If so, is not bee-keeping a little dangerous? I should like to have your opinion, and that of some of the doctors too, and I should like to know what to do in such cases. What must we give for a bee-sting when symptoms seem dangerous? W. W. EDWARDS.

Abbeville C. H., S. C., March 14, 1884.

Friend E., although such occasions as you mention are of comparatively rare occurrence, there are enough of them to make it quite desirable that every bee-keeper should know what to do at such a crisis. I have sometimes thought that occasionally a bee is found during the height of the honey season, having an unusual amount of poison in his poison-sac, or, may be, having poison of unusual virulence. I have been led to infer this, because once in a great while I get a sting that is extremely painful. Ordinarily I may be stung a hundred times, and pay little if any attention to it. But once in three or four years I get a sting that gives not only tenfold more pain, but lasts a great while longer. These severe stings, it seems to me, come during the height of the honey-flow— that is, I seldom get stings that hurt very badly when little honey is coming. In the spring, when bees are first set out, or in winter time, if they happen to sting at all, it seems to be only about half a sting. It seems to me the greatest danger that is to be feared is, that the swelling that often ensues from a very severe sting may close the breathing-passages, or stop the respiratory organs. A case of death has been reported in England, where the patient simply choked to death. Very likely the application of water would be beneficial to alleviate the swelling; and although I have not consulted any medical authority, I would suggest that the throat and breathing-passages be kept open by mechanical means till the swelling can abate. A tube of some sort, I think, might be inserted in the throat so as to keep a passage open to the windpipe. We have many of the medical profession among our readers, and would be glad of suggestions from these brothers. I presume you are all well aware already of my want of faith in remedies of any kind for ordinary bee-stings. Friction, or any such disturbance, is the best way in the world to produce swelling; and although I have tried great numbers of remedies, I am more firmly satisfied every time, that the best way after removing the sting, is to let it alone.

WALNUT WOOD FOR SECTIONS.

ALSO SOMETHING ABOUT CRATES AND CASES FOR HONEY.

LAST season, "as the readers of GLEANINGS know," our State Convention was held at the great Southern Exposition at Louisville; and at the same time, the Exposition Co. gave an inducement to Kentucky bee-keepers to have a "honey show" for one week. Knowing as I did that thousands of people would inspect this mighty show of honey, set me to experimenting as to how to get my honey to show to the very best advantage. Being a professional artist, gave me some advantage in the effects of colors, one upon the other when placed side by side; for instance, if we place a light surface and a dark surface close to each other, the dark will appear darker, and the light lighter, than they would if only the one color were present. I took advantage of this in giving my honey the desired appearance of color; and as some who saw the "show" will remember, my honey in sections had a peculiar rich creamy appearance, not "chalky white," but a shade whiter than rich cream. My honey was in planed basswood sections, size six to fill a Langstroth frame, as made by A. I. Root (my favorite size and shape of section). I colored the sections with burnt umber mixed with turpentine, which gave them the appearance of walnut lumber, or sections made of walnut wood. I colored them before putting in the hive. Honey in these sections appears very white. I then made my crates a rosewood color, rather red rosewood; the brown sections and reddish cast of the crate gave the honey the cream effect. I also made some crates of red cedar wood, which I have now on hand for exhibition, that gives a still better effect to my eye. The thought has occurred to me since, why don't we have our sections made of walnut instead of basswood, and stop cutting down basswood-trees. Walnut lumber can be had at all times and places, and is much the nicest of any thing for sections. Of course, it is some harder to work, but that is a small matter.

This season I shall have my sections made, six to fill a Langstroth frame, and made of walnut. What say you, Mr. Root? Will you make them? I will also make my crates of walnut or cedar; that is, the strips on the front sides where the glass is; tops and bottoms of clear pine. The effect is very pretty. Try it, and see if I am not right about it. One other thing: I shall this season use for starters in sections only very narrow strips of thin foundation.

FDN. NOT DRAWN OUT BY THE BEES.

For me, full-size starters of foundation won't do. We have been using some honey on the table of late, where full-size starters were used, and the honey was stored in the best of the season, and the bees added wax enough to it to make the combs, and left the foundation in the middle of the combs just as I gave it to them, and we scrape the honey off and use it and lay the foundation away to cut up for small starters another season. Talk about economy, who can do more than that — use the same foundation over again? No patent. I should like to hear from others on the subject of using walnut sections.

Eminence, Ky., Feb. 3, 1884. W. T. STEWART.

Friend S., your suggestion may be a good one, but blackwalnut is the most expensive kind known here. It is worth, in fact, from 50 to 60 dollars per 1000, whereas basswood is worth only 18. We should have to charge for blackwalnut sections from 10 to 15 dollars per 1000. In regard to your fdn. in the sections, it seems to me it was not made as thin as it should be; and I shall still think so, even if you did purchase it of us. We are doing better now, however, and I do not believe the starters we send out now will leave any noticeable fishbone, even if the bees should get lazy and forget to do their part.

CHAFF HIVES

Arranged for Reversing Common Suspended Frames.

THE WAY FRIEND BLACK DOES IT.

FRIEND ROOT:—I think I have a good thing in the manner of reversing common suspended frames, and must share it with my bee-keeping friends. I have made and used chaff hives during the last two or three years, which are so arranged that the frames in the second story hang parallel with those below. This is accomplished by making the second story one inch longer than the lower one, and hanging movable blocks in one end. I send you one of the blocks. Among the advantages of this arrangement are:

1. The frames are all of the same size.
2. Any part of the brood-chamber can be reached by removing three or four frames from above.
3. Side storing can be practiced with great facility.
4. The combs can be reversed in the second story, and the blocks which support one end of the frames serve as spacing-boards.
5. Wide frames filled with sections can be reversed in the second story. Some bee-keepers remove the sections from the wide frames when partly finished, and replace them upside down, that the comb may be attached to all sides of the sections. By my arrangement, eight sections are reversed in less time than one by the old method.

We must have some method of reversing our frames at pleasure; but let us not change our frame one particle, in order to do so. If a change is necessary, let it be made in the hive, and not the frame. I have no less than seven different styles of hives, but use the Simplicity frame in all of them.

You made a mistake in my name when you wrote the editorial referring to drone-traps. My name is not J. D. Black, but— G. D. BLACK.

Brandon, Iowa, April 12, 1884.

Friend Black sends us a movable block with his letter. It is like the spacing-board shown in our price list, on one side, while the other side is rabbeted out, and has a tin rabbet let in which comes just right to support the frames in the upper story. When I planned the chaff hive this was considered; but I so much disliked loose blocks about a hive that I did not adopt it. Since friend B. proposes to make it answer also for setting frames upside down, it may be well to consider it again. Of course, it would contract the space of the upper story somewhat. We presume that any who wish to try this arrangement will have no difficulty in making the blocks of the proper size to make their chaff hives hold frames running parallel with the lower ones. Friend B. has his chaff hives so made that movable blocks are needed at only *one end* of the frames. Very likely this will answer; but it seems to me it would be a little awkward.

FRIEND STANLEY'S AUTOMATIC HONEY-EXTRACTOR.

SOMETHING FURTHER IN REGARD TO THE IMPLEMENT.

FRIEND ROOT:—We have just received GLEANINGS for April 15; and as you take the liberty (which is entirely just and right) of criticising the Automatic honey - extractor, we should like to make a brief explanation regarding your points of criticism.

1. You speak of the great size and weight of the machine. We make two sizes of can, the diameters being 26 and 30 inches, the 26-inch can being for the L. frame, or any frame not more than 9¼ in. deep. The 30-inch can will take any frame up to 12 inches deep by 20 long. Now, will any practical bee-keeper say that a can of either of the above sizes, with the crank at the side, is not better than a can 18 to 22 inches in diameter, with the crank at top? As regards the weight, we will say that the extractor for 4 L. frames will weigh complete about 45 lbs., while the large size will weigh about 60 lbs. We do, it is true, use a much heavier gear than is used in any other extractor that I know of, and that is one of the best things about our machines. As the crank is long, and the inside work is all put up by a first-class machinist, and all the shafting is cold rolled, made exactly to our order, the machine is as easily operated as any of the cheaper extractors, and the size and weight of the machine will hold it still so that one heavy comb put opposite to one light one will not set the thing to dancing around the room, as is often the case with the light machines.

2. The expense of the Automatic is no more than would be charged for other makes of extractors, if the same material were to be used, with none of the

improvements that are combined in our machine. If the machine is wanted for two frames only, we furnish it for $2.00 less. The extractor for two Langstroth frames costs but $16 00, all complete; and if at any time it should be wanted for four frames, the two comb-baskets can be added for $2.00, as all the parts use the same, and the baskets can be put in place by any one in ten seconds.

In your remarks you forget the fact that our machines all have a "brake" that stops the motion much more quickly than any other extractor can be stopped, and that entirely without the use of the crank. We are receiving orders nearly every day from among the best and most progressive honey-producers throughout the country, and we trust they will report. G. W. STANLEY & BRO.

Wyoming, N. Y., April 18, 1884.

You speak about the extractor "dancing around," friend S. That reminds me that friend House, who is just now reviewing and revising the A B C book, says he had trouble in getting his extractor to stand still and firm. Now, every extractor should be fastened down so it *can't* dance; and if you can not get a stand that will remain firm otherwise, have it fastened against the wall with some good stout screws, and don't start work till you can put the honey-combs in with nothing in the other, if need be, and have every thing still and solid.

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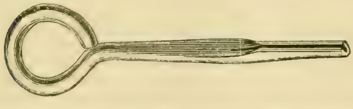
WIRING FRAMES BY MEANS OF BENT WIRE NAILS.

A SUGGESTION IN REGARD TO THE MATTER.

I NOTICE that some one recommended in your journal about a year ago, the use of wire nails ¾ in. long, to be used in wiring frames. At the time, you recommended the use of round pliers for bending the nails into hooks. I tried the pliers, but could not bend the nails to my satisfaction. Some would be long, and some short hooks; some points would touch the frame so that I could not put the wire over them, and others it would slip off from. At last I made a tool like the one shown below, and it works complete. Hereafter I shall use wire nails instead of perforating the frames. I can wire a frame in less than half the time (after the nails are driven). It can be done direct from the spool, without kinking, and the bees seem to like it just as well. I think you might be able to make and sell them to the bee-brethren for 10 or 15 cts. each. As they can go only just so far over the point of the nail; by giving them a half-turn, every hook will be of the same length, and no point can touch the wood, because the thickness of the tool will be between the point and the wood. If you think this of any use you are at liberty to use it, as you may think best, for the benefit of the brethren.



MOFFAT'S TOOL FOR BENDING THE POINTS OF WIRE NAILS FOR WIRED FRAMES.

S. L. MOFFAT.

Washingtonville, N. Y., April 2, 1884.

No doubt your implement will answer nicely for the purpose, friend M., but we already have such a multiplicity of tools in our list that we could not well undertake to furnish another, unless it is something generally wanted by almost all bee-keepers. With our machinery, we find it much easier to wire frames by drilling the holes than to use nails.

Humbugs & Swindles

Pertaining to Bee Culture.

BEE-KEEPERS SHOULD BEWARE ABOUT TRUSTING THEIR GOODS TO IRRESPONSIBLE COMMISSION MEN.

I CAN not help saying a little more about that dishonest commission firm that Mrs. Axtell speaks of on page 193. It was very kind in her to speak so well of their lawyer, R. E. Jenkins, and I can assure the brethren that he is one of the finest of Christian lawyers, and an eminent man in his profession.

It chances that I know both Mrs. Axtell and the commission firm in question, as well as something of their recent dealing with her; and I know, too, that while that firm ought to be pointed out to all bee-men who ship to the Chicago market, she is too kind to ever publish their name; and once last summer she asked me to say nothing about the matter. I won't! but I have had some deal with them myself, that I am sure she will allow me to mention. The firm, when I first knew it, was Beek Bros.; then Beek & Clark; then Beek & Robinson, and now Beek Bros. again. In October, 1878, I took 1500 lbs. of very fine comb honey to Chicago, intending, as I had done before, to leave part with them — Beek & Robinson — and part with others. But Beek urged me so hard to let them have it all, and he was such a kind and honest-looking old gentleman, that I finally let him have the entire lot, even contrary to the advice of friend T. G. Newman and Bradstreet's *Reporter*. He had, before this, handled small lots of honey for me at good figures, and he seemed to want this lot so much; more than all, he seemed to have such love for me, that I felt as though I would be doing an unkind act not to let him have it.

They paid me $25 down, and by June of the next year I had received altogether $90, and this is all I ever got. The following fall I called on Beek, and asked the privilege of looking over his book account of the sales of my honey. With a sickly grin, he replied that the firm was then Beek Brothers, and that his former partner, Robinson, was out of town, and had the books with him; and that's all the satisfaction I had.

They paid none of the freight charges, and the $90 was all I ever received in any shape. During the time they claimed to be holding my honey, I would receive no reply to about two letters out of three; and when they did write, it was short and angrily. They knew they had my whole crop, and handled me as they chose.

It was as fine a lot of comb honey as I ever marketed, and honey was bringing a fair price. This Beek frequently changes his position from one part of South Water street to another, and has an easy way of going into bankruptcy, and forming new partnerships about as often. Peach-growers of

Western Michigan could tell some sorry tales of his dealings with them.

Knowing what I do of this man Beek, I feel it nothing short of duty to warn all shippers against having any deal with any firm with which this Beek is connected. I do not know his initials.

Medina, O., March 26, 1884. WALTER B. HOUSE.

On page 263 of our last number, friend Stewart gave us an article in regard to sending honey to commission men. That article should have followed the above. It seems to me yet, that there should be some way to get hold of a man who changes the name of his firm in order to get out of settling his accounts, and I am glad of the opportunity of warning bee-keepers against a man who has been up to that sort of business.

THE ISLAND OF CUBA AND HER CAPABILITIES.

DO BEES GET LAZY IN WARM CLIMATES?

I AM not the owner of this enterprise. The apiary is owned by J. & P. Casanova. The Casanova brothers own large estates in Cuba, as well as in the United States. They are Americanized Cubans; though born in Cuba, they were educated in the United States, and are enterprising and go-ahead men. Not only are they the first to try the experiment of keeping bees in their native country upon the most improved plan, but the first in almost all enterprises that have for their aim the improvement, the advancement, and general welfare of their country. With this last enterprise (bee-keeping) they are bound to succeed. After a two months' experience here I am more than ever impressed with Cuba as a home for the honey-bee. For 60 days there has been no holding up — to-day only repeating itself to-morrow; sunshine and flowers and honey, and the end is not yet; for if we are to judge by appearances, there seems to be no falling off of bloom in this great hot-house of nature's own building, where the desert winds that sweep the plains and foot-hills of California, carrying death in their very breath, never come; where a six-months' imprisonment within their ice and snow bound walls is not necessary; but basking in God's own sunlight, 365 days in the year, the Cuban bee works on, giving the lie to foul calumny's polluted touch, that "bees get lazy in a warm climate, and will not work." They do not. Let any who have such foolish ideas as the above in their heads, come to our apiary now in mid-winter, and note with what energy they hurry to and from their hives. Place a sheet of foundation in a brood-chamber, the next day finds it drawn out and filled with eggs and honey, tells but too plainly that they have lost none of their ambition by being transplanted from the North to this climate beneath a tropical sun. Never have I, in any country or climate, seen better prospects for success than I see here.

HOW MUCH HONEY HAVE WE TAKEN?

We are not running for honey this year, it being the intention of the owners to increase this home apiary to 500 colonies, then establish branch apiaries at different points on this vast estate, till thousands of colonies contribute to the grand result. We take but little heed to the exact amount of honey coming in; but to get it out of the way so the queens can lay, and that we may have brood to divide, is about all the note we take of it; but it is honey, honey, all the time — too much honey. Bee-keeping is no experiment in Cuba. For many long years before the movable-frame hive was invented, have these busy little workers contributed their mite, in the shape of tons of honey and wax, to enrich the pockets of man, and they were kept (and are to-day) in the most primitive way — hollow logs, and boxes about five or six feet long, laid horizontally, being all the hive the native ambition has ever aspired to provide as homes for those that work so incessantly and uncomplainingly for their benefit. Their mode of taking the honey is as primitive as the hives. The boxes being open at either end, they smoke the bees back to the center, and, with long knives, cut the honey out, in as far as they can reach; then go to the other end and go through the same process, not being very particular whether they get all honey or part pollen; and if there are a few sheets of brood mixed in, it does not hurt. The whole mass is mashed up together, and the honey strained out, and the rest made into wax. They tell us, that during this December, or winter flow, they cut the honey out as often as every 15 days, and, of course, the bees have the comb to build anew every time, and they get as high as 15 gallons (every thing here being reckoned by the gallon). If you wanted to buy feathers for a pillow, you would have to buy them by the gallon; if you want a turkey for Christmas, or a roasted swine for the Fourth of July, it's all by the gallon.

A. W. OSBURN.

San Miguel de Jaruco, Cuba, W. I.

Thanks for the interesting facts you give us, friend O. We are very glad indeed to know that energy and enterprise are to be brought to bear in developing this land of sunshine and flowers.

REGARDING THE REPORT OF THE TORONTO CONVENTION.

FRIEND MUTH OFFERS SOME SUGGESTIONS IN REGARD TO THE MATTER.

FRIEND ROOT: —Unable to read for some time, I just had read to me the article of March 19, 1884, of *A. B. J.*, headed, "The Vice-Presidents of the National Convention." There appears to be something wrong, which should be corrected without delay.

When at the convention at Toronto, I was under the impression, and some one told me, that the stenographer was employed by some journal, and we could get from him the report of our meeting for $100, which seemed, to some of our friends, an extravagant charge. Not having charge of the matter, I dropped it and heard nothing of it until by the above-named article. I had not supposed that anybody had been hurt, and was only sorry that our members should do without the report of the convention. I had stated to our friends the amount of money in the treasury at the time. The amount now is $137.65—ample means to defray the expenses. Having been asked by very many friends for the report of the convention, and feeling safe in saying that it will yet be a matter of great interest to all, I for one am in favor of having the report of our National Convention at Toronto printed in pamphlet form, and a copy presented to every member of the association, as we agreed at the convention. This you will please communicate to the ex-President, brother Jones, and to the members of our association. If agreeable, let the proper party procure the report, and draw on me for the money. It behooves you, perhaps, best, as the Secretary of the meeting, to print the pamphlets and mail one to every member, of which there are 105, according to my list. The treasurer is solvent. Our convention at Toronto was a pleasant affair to every participant, and its memory should not be stained by unpleasant recollections. If some of our members have not adhered strictly to the rules of business, they were only guilty of omissions which were unintentional. Every member present had the honest intention of contributing his mite toward the success of the meeting to the best of my observation and judgment.

Hoping that all will be arranged with a feeling of brotherly love, and satisfactory to all, I am very truly yours,— CHAS. F. MUTH.

Cincinnati, O., April 12, 1884.

There, friend M., that sounds just like you, and, in fact, it sounds just like the spirit of the convention. I did not hear an unkind nor an unfriendly word spoken of anybody while in Toronto, and it has seemed to me a little sad that there should any unpleasantness occur after it was all over. I know I was put in as secretary, but I told them beforehand that I wouldn't make a good one. I did not arrive until the meeting was well under way; and as the reporters had hold of the whole matter, I let it rest in their hands, aside from the brief sketch I gave of the proceedings. Like yourself, I expected, too, the fullest report we had ever had of any convention. In regard to printing the pamphlets, it seems to me it would be far better to let Bro. Jones have it done in Toronto, especially as it would be quite necessary for himself, or some of his men having the matter in charge, to review the report and cross out unimportant matters. It seems to me the reporter was to take down every thing that was talked about—good, bad, and indifferent. I agree with you, friend M., that the better way would be to hand over the $100 and have the report written out and printed in good shape. If the funds of the convention are lacking, several of us can "chip in" and make it up. I for one would like to help. Your concluding sentence is exactly what we want—all of us, I think.

REVERSIBLE FRAMES.

A REPLY TO THE CRITICS AND THEIR OBJECTIONS.

HAVING been greatly amused by reading the very energetic protests against reversible frames being allowed to enter into a bee-keeper's stock of implements, as though the very thought of such a departure from the "beaten track" is dreadful to contemplate, I have concluded to say a few words on the subject. Friend Fradenburg, even, desires that "all bee-keepers be earnestly advised *not* to adopt any of them at present, but have a committee appointed," to act as guardians of the poor, simple, gullable bee-keepers' interests; and "ye editor" indorses the suggestion. Easy! easy, gentlemen! Nobody is going to *compel* you to use reversible frames, if you do not wish to. When I discovered what I considered a remedy for the several disadvantages enumerated by Mr. Heddon in his article in April GLEANINGS, page 232, I innocently thought that making the discovery public was doing a little toward paying the debt I owed to previous discoverers, and that others would be glad to reap the benefits of the practice. From the flood of inquiries received since my article in GLEANINGS for March appeared, I feel sure I was *not* mistaken in thinking such a device was called for. That it will do what I claimed for it in the article alluded to, let the testimony of the critics themselves answer.

J. A. Buchanan, on page 224, April number, says, "The combs were all built up solid inside the frame, and well fastened. * * * By this process" (reversing the frames) "it is an easy matter to get all your combs attached to all parts of the frame." Further along he says: "True, all the honey, or almost all, could be forced into the surplus boxes." But he objects to having the honey so "forced," for fear the bees will be short of "winter stores," and will require feeding. "That," he says, "is *too* much work, and will pay no man."

James Heddon, in GLEANINGS for March, 1881, page 116, says: "I delight in light hives in the fall. When the cause of it is, that the bees put too much above, then I will make up the deficit with properly prepared sugar syrup." This state of things he obtains by using eight instead of ten frames.

W. Z. Hutchinson, in his last article, indorses this practice, which he designates as the "squeezing process."

G. M. Doolittle, in GLEANINGS for May, 1881, page 233, says: "If we wish a good yield of box honey, use so few frames in the hive that the queen keeps them literally full of brood."

I think this testimony would effectually answer the above objection to the reversing process, did such objection really exist; but the fact is, the reversing process, properly managed, will, to a great extent, prevent the need of feeding for winter stores, as the apiarist can allow the bees to fill the extra combs at any time when he thinks advisable, and still allow the queen sufficient room for egg-laying. Remember, we can and should use more combs when we practice reversing to secure comb honey in sections. This I consider an important point, which should not be lost sight of, in estimating the advantage or disadvantage of this method.

Friend Fradenburg's principal objection appears to be, that using reversible frames will somehow "knock the bottom" out of the "universal frame," or, as he puts it, "It will be like the confounding of the languages." What the using of a reversing device has to do with the size or shape of frames, or why it should prevent any one from using the size that best suits him, any more than using Root's metal corners would, is something I can not understand. My device gives the same metal bearings as does his; can be used with metal rabbets, or without; requires no change in the make of hives, but will fit where any L. style of frame will; can be used interchangeably with any other L.-shape frame; need not be reversed if not desired; needs no "nails nor wires" as "spacers," which friend Heddon objects to, and has the same "lateral movement" as the Langstroth, which he considers, and so do I, indispensable. Friend Heddon says, "The drawbacks to the reversible-frame method are greater than all the advantages;" but he fails to tell us what those drawbacks are. Instead, he "supposes a case" of the invention of an "extended top-bar," and says: "Looked at in this light, we discover the inferiority of reversible frames, except for reversing." Wherein it is "inferior," he fails to explain.

But Mr. Heddon has a "better and cheaper way" (what is the use of it, if reversing is of no benefit?) that completely solves all the difficulties. Let us see what it is. "Reverse the whole hive at one movement." This would be on a par with advising one who wished to relieve the queen from crowding, to extract the whole hive at one movement. Friend Heddon, you must have been poking fun at Mr. Baldridge and myself when you wrote that. You are too experienced an apiarist to give such advice seriously.

Judging from Mr. Root's comments on this plan, page 224, April GLEANINGS, I think he fails to catch *all* the advantages proposed by reversing the frames, only one of which, getting the combs built solid, would be secured by "reversing the whole hive," to say nothing of its disadvantages, and the difficulty of its successful execution. C. J. F. HOWES.

Adrian, Mich., April 2, 1884.

Well, friend H., you have made a pretty able defense, but I am afraid I shall have to be accused of "reversing" some of your ideas as well as frames, when I tell you that the most practical reversible frame that has ever come to my knowledge is the one mentioned in one of our editorial pages. If it works as well in our apiary as it seems to me that it will, I think it is destined to do considerable "reversing" before we get through with it. We are having engravings now prepared to illustrate the frame and hive in our next issue.

SMALL COLONIES.

FRIEND HEDDON SPEAKS A LITTLE IN THEIR DEFENSE.

THOSE who have read the leading works on apiculture have been taught, that the golden rule of bee-keeping is to "keep your stocks strong." Now if that means, keep a large number of individual bees in each colony, I object to the rule. If it means keep a large number of bees according to the size of the brood-nest, I agree with it. At the same time, however, I can not then agree that we must have large numbers of bees in a hive, in order to get a large pro-rata yield of honey. I mean pro rata to the number of bees. Let me explain by relating practical experience.

Nearly every spring we have two, three, or four colonies, and sometimes more that are weak in numbers; that is, weak according to the capacity of our standard L. 8-frame hive. I will now tell you how I manage such colonies, to avoid any loss by their being weak, and try to show you the mistake in Bro. Doolittle's argument, on page 236, top of second column.

Let us suppose we have a queen, two frames of brood, and about three pints of bees when the honey-harvest opens, in our hives, with 8 combs, to constitute our weak colony. Now by its side we have a strong one with brood in 7 combs, and usually 8, with the hive full of bees. Now, is the strong colony, which has about four times the brood and bees of the other, going to be any more profitable, according to its size, than the weak one? Let us see.

Now for the management. Let us suppose we are going to run for extracted honey. The first thing we must do is to put a super of empty combs, and in a few days another, and perhaps soon after a third one, on our strong colony, when we have a 4-story hive, raising ripe extracted honey on the plan given in Dadant's little book. Now let us return to the weak colony. We find it with about the same number of combs for surplus honey, according to its capacity, all in one story, working on the side-storing principle, *a la* Adair, Gallup, Poppleton, and others. This little colony has brood to care for only in proportion to its size, and they gather honey from the fields, and store it for us, and make a draft upon the resources of our field, and upon our capital in wood and combs, in proportion to the capacity of the entire stand. This we know to be true by an experience of 12 years.

I remember well at one of our State Conventions, when I related similarly to one of this State's brightest bee-keepers, asking him how this coincided with the golden rule of bee-keeping. He replied that he had, for several years, worked in the same way with great satisfaction. The reader will notice that this system is adapted to an apiary equaling the capacity of the field which surrounds it.

MOTH WORMS AND POLLEN.

Bro. Vandervort, who has just paid us a visit, is a man of over 20 years' experience, and born with the faculty of close and careful observation, and he says that moths will never breed in combs that contain no bee-bread, and an able writer confirms that theory, and I can not remember of any case to disprove it; and may it not be that Bro. Doolittle's system of partially storing comb honey in the brood-chamber has caused him to have so much to say in regard to preventing the ravages of the moth larvæ?

Dowagiac, Mich., April, 1884. JAMES HEDDON.

I am aware, friend H., that several have taken the ground that you take; but I could never really understand how they did it. Powerful colonies have always been most profitable for us; and I do not know that I am aware of any exception to this. On one occasion we had a hybrid queen that filled her hive so full they were almost ready to swarm before the fruit-bloom opened. This colony gave us enough so that we extracted quite a surplus from the fruit-bloom, while all the rest of our apiary gathered only about what they needed to rear brood. At another time, another powerful colony in early spring gave quite a yield of honey, and furnished four good natural swarms, all of them furnishing more or less surplus. This colony was worth to us in clear profit three or four of the rest. Quite a number of the friends have doubled up, in preparing bees in the spring, in order to get all booming before the harvest came, and then gave us astounding reports. In the illustration you cite, I should say that a strong colony would get by far the most honey in proportion to the number of bees it contained. Where they get the swarming mania, and loaf around, and won't work, we have a serious drawback, I know; for a weak colony that keeps right on storing honey, without a disposition to swarm, might go far ahead of a powerful one that would not work.—I entirely agree with Bro. Vandervort in regard to the pollen business; but it never before occurred to me why it was that friend Doolittle was troubled with moth worms when the rest of us did not find any.

HOW MUCH DOES A POUND OF HONEY COST?

FRIEND DOOLITTLE GIVES US "FAX AN' FIGGERS."

ON page 95 of GLEANINGS, present volume, Mr. H. White writes: "Don't we say too much about getting a big price for our honey? Would it not be better to try to raise it so we can afford to sell it cheaper? It does not seem to me it will ever become the staple article we wish, unless we can sell very cheap." On the same page, replying to the above, our worthy editor says: "I agree with you in regard to furnishing honey at a low price, and have felt quite a degree of pleasure in furnishing honey for only 10 cts., in 50-lb. cans."

From the above it would look as if *we* bee-keepers were asking an exorbitant price for our product, and getting *rich* out of the sales of honey from our apiaries, thus hindering the rank and file of the people from consuming our honey, by the high prices we ask for it? But, wait a moment. Another worthy editor speaks from page 181, of the *Amer. Apiculturist* for 1883, and says: "After paying the supply-dealer's bills, the current expenses of the apiary, the cost of shipping the honey, and the demands of those who sell the honey for the bee-keepers, there is but a small amount left for their own remuneration for their hard season's work, and the interest on the capital invested. Do we state the facts in the case? It may be pleasing to listen to the reports of large crops of honey; but when we sit down and carefully estimate how many pounds of extracted or comb honey must be taken from an apiary of 100 colonies to pay the expenses, and give the apiarist fair compensation for his time and investment, a great deal of the beauty of the picture is spoiled."

Again, W. E. Clark, President of the N. E. B.-K. Convention, says in his address to that convention in 1884: "The bee-keeper's calling is one of sweat and toil; every dollar that the bee-keeper gets is well earned." Mr. Clark is a thoroughly practical man, and any one who has read any of his writings can not help but feel that his statements are practical and truthful.

Now, from the above and other similar expressions which I have read, I can not but conclude that we are not thoroughly posted regarding what 1 lb. of honey costs us to produce the same; and the object of this article is to show, as nearly as may be, what the actual cost of 1 lb. of honey is.

P. H. Elwood, who is one of the largest honey-producers of this State, once said to me that any man who could successfully manage an apiary of 100 colonies of bees, spring count, would command a salary of $1000 in any business he might see fit to engage in. This statement of friend E. I believe to be near the truth, after a careful comparison of men, and salaries obtained by different persons, during the past few years; but in order not to be considered extravagant, I shall reduce it one-half, and allow $500 as the necessary amount to pay a man competent to successfully manage an apiary of 100 colonies of bees. Then we have a capital of $600 invested in bees, calling each colony worth $6.00, which would give $36.00 in interest to be added to the $500, calling the interest at 6 per cent, and $4.00 as taxes, where our bees are assessed at $5.00 per colony, as mine are. Then we have $200 invested in hives and fixtures, which, in order to keep good, and renew them when necessary, will require double interest at least, or 12 per cent, which gives $24.00 more. Then we must buy or make 5000 sections = $25; 200 shipping-cases and glass for the same, costing $40, and 50 lbs. thin foundation for sections, amounting to $30, at 60 c. per lb. To this we must add cartage of our honey to the nearest city or railroad, costing me $11.00, and the rent of a shop and grounds for our apiary, costing $30 more, so that we have $700 as the total cost of the working of our apiary of 100 colonies of bees. If we own the shop and land which is required for our apiary, the cost to us will be as great to pay the interest and taxes, keeping it in repair, etc., as the rent would be were we to hire the same. Because a man owns a thing does not make it cost him any the less, even if it does make him feel more independent. Many seem to suppose that when they own a thing, the use of it does not cost them any thing; but often a few years will prove that the use of it would have cost them less had they rented it. Thus we have $700 as the actual cost of what honey our 100 colonies of bees may produce us. The next thing is, to ascertain how much honey we can expect year after year from them.

As the honey-production of our country has been of great interest to me, I have carefully noted all convention reports, and also all reports given by practical and successful apiarists, and I find that the average yield of honey, year after year, reported by this class of individuals, in the United States, is not far from 50 lbs. of comb honey. Into this estimate I have not taken those who keep from 3 to 5 colonies of bees, and "gush over" with a report of from 200 to 300 lbs. of honey per colony, nor, on the other hand, those who have made an entire failure of keeping the same number of colonies. Such as these do not come under the head of successful apiarists, capable of caring for 100 colonies of bees. Thus we have 5000 lbs. of comb honey as the equivalent of our $700, taking the years as they average throughout the U. S. Now by dividing the $700 by the 5000 lbs., we shall have the cost of 1 lb., which proves to be 14 cts.; so that, if the comb honey of the U. S. nets the producers less than 14 cts. per lb., we are keeping bees at a loss; and if more, we are making our avocation profitable.

The same holds good regarding extracted honey. The case is the same, with the exception that, perhaps, the packages both for storing and shipping cost a little less. From a careful account kept with my own bees, and a summarizing of reports, I believe that about ½ more extracted honey can be obtained from the same apiary than comb, which gives us 7500 lbs. as the product of our 100 colonies. The cost ($700) divided by this gives us 9⅓ cts. as the cost of one pound of extracted honey. By allowing the ⅓ cent as saved on the cost of packages over comb honey, we have 9 cts. as the actual cost of 1 lb. of extracted honey throughout the U. S. In this, Mr. T. W. Fleming (page 99) will find an answer to his questions regarding the profitableness of extracted honey compared with comb honey.

Now, having the above before us, I wish to say to friend White, that if, in order to have honey "become the staple article we wish," it must go lower than 9 cts. per lb. for extracted, or 14 cts. for comb. It is very poor policy for us to wish for a staple article; for of what object would a staple article be, when we could not live at the price paid for the production of it?

To friend Root I wish to say, that I feel *no "degree of pleasure"* at having him sell a product of mine so low that he can not afford to pay me for the same what it actually costs me. By page 212, GLEANINGS, I see he pays 8 cts. per lb. for a nice article of extracted honey delivered at Medina, which he sells, I suppose, at 10 cts. To deliver this honey in Medina would cost me 1 ct. per lb., or nearly so, so that 7 cts. is all I would have left for what actually cost me 9 cts. Thus if I were obliged to sell my whole crop at these figures, I should have my whole salary cut down to $350 a year, as the other costs for production can not be reduced. Worse still. I have just got returns for a small lot of extracted honey sent to New York, which nets me only 6 cts. per lb., so my wages must still come down to $275 per year. I believe I am entitled to as good pay, after spending years of toil and study, sleepless nights in planning and framing ideas to be carried out in the apiary, and days of hard work in the hot sun in carrying out these plans, as are our lawyers, doctors, and clergymen, who sit in their easy-chairs in cool and shady offices, and have given no more time and study in preparing themselves for their avocation than I have. And yet I am called to come down to a tithe of their income, in order to have honey become a "staple article."

I here leave the subject by asking if our low prices and dull markets do not denote that the production of honey is being overdone; in other words, is not the supply more than adequate for the demand, at living prices?

In the above I said nothing in regard to the rate of increase, for at the low price ($6.00) I placed the bees, the hives, combs, and 30 lbs. of honey in the fall, are worth the $6.00, so that the increase might as well be destroyed, as sold at these figures.

Borodino, N. Y., April, 1884. G. M. DOOLITTLE.

Friend D., you have given us a grand article, and I do not know of any thing we wanted any more than just such an article at this time. The summing-up of it would be, if I am correct, that we may conclude, as a general thing, comb honey is worth 14 cts. per lb., and extracted honey, 9 cts. per lb. If we can make sales so as to make more than that, we are making a profit on our honey accordingly. Your figures are fair, and, so far as I can see, just about where they ought to be. I presume, of course, some of the friends have divined that I have something to add, however, and something to bring up which it seems to me you have omitted.

Elwood thinks a man who can successfully manage 100 colonies of bees would command a salary of $1000 in any other business he might see fit to engage in. While this, perhaps, is largely true, I think there are some great exceptions. We have people who will manage 100 colonies of bees pretty well, because they love the bees. We frequently find eccentric school-children who excel in mathematics or spelling, or some other branch, who would not excel in other things. Again, there are many so situated that they could not go away to command a salary, but could take care of bees at home very well. A good many women are making nice incomes with bees, who could not work for a salary — Mrs. Axtell, for instance, our good friend Mrs. Harrison, and others.

I do not quite like the way in which you pass over our small friends who, as you say, keep from three to five colonies, and get from 200 to 300 lbs. of honey per colony. What do you say "gush over" for? Are they not doing well, and are we not proud of them? Why, I just enjoy visiting a bee-keeper who has five colonies, and has secured 1000 lbs. of nice extracted honey from the five. If you look through Reports Encouraging, you will find there is quite a big lot of this class also. And, by the way, do they not get their honey cheaper than the proprietors of 100 colonies? How about the specialist just here? Another thing: If we sell our honey for more than 9 or 14 cents, we make a profit; and if we make our whole apiary average more than 50 lbs. per colony, we also make a profit. In fact, we stand a chance of making two profits, for our honey wouldn't then cost us 9 and 14 cents. Besides, friend D., I know some people who would be quite happy if they didn't make over one-half of $500.00 a year. Not only is there a steady stream of applications at our factory for something to do, but men and boys are making journeys to Medina, in the hope of getting a situation, and hundreds would gladly go to work for $1.25 per day. You may say they are not worth any more. Well, as a rule I think that is true; but what shall our friends do, whose market value is only about $1.25 a day?

Then there is another side still you have not looked at. Hundreds and thousands are spending their lives without making even a dollar a day. In fact, they are more in debt at the end of the year than they were at its commencement. They might have kept bees when they would otherwise have done nothing; and the expense of getting a start is very little where one is determined that the bees shall pay their way. Very likely, friend D., you can not afford to produce honey at 8 cents per pound — that is, unless you have some other business that yields you an income. If I am correct, you have some other business, and I think it is very wise in you to do so. I think a greater part of our bee-keepers should have something besides bees to depend on. A farmer who raises one crop, or any individual who depends upon one single source of income, is very apt to be disappointed. I would have a garden and some poultry, and small fruits; and whenever any of these sources of income should for some reason become unprofitable, I would amass my energies and zeal on the other lines where there was a good demand. This is simply my advice and suggestion. Others may do as they choose.

Bee-keepers sometimes have hard times to make both ends meet. Sometimes a whole season's work has been a losing business. Is it not often so with farmers and grocers, and even the lawyers and doctors and clergymen? Do they *all* sit in "easy-chairs" in "shady offices"? I know quite a lot of them who do not; and if I am correct, there are about as many doctors and lawyers who do not get $500 a year as there are bee-keepers. In regard to the clergymen, I was thinking a few days ago, and thinking of it a little sadly, that there are so many of whom it can be truthfully said, "That man used to preach once." Why don't they preach now? I have wondered if it were not because they loved "easy-chairs" and "shady-offices" better than they loved the earnest, honest work of saving souls, especially when the souls to be saved were away down in the social scale, and where it was hard and disagreeable work to go after them and hunt them out and lift them up.

Our market reports in the different journals show that there is a good deal of honey sold for less than 8 cts., and I have a good many times thought I was doing some of the friends a favor by taking their honey off their hands in *ton lots*, even though I gave them only 8 cts. for nice honey. If they didn't make it pay to produce it at 8 cts., I presume likely they won't raise any more, and pretty soon there won't be any in the market. You know what was said a year or two ago about raising queens for a dollar. The traffic now in queens at a dollar amounts to thousands of dollars annually; and those who raise them in large numbers at this price seem to be happy and contented in the business, although they may not be getting rich very fast. Scarcely a day passes but that a brother or sister writes, begging to be allowed to send me queens as fast as they can be got to laying. Although I take a great number of them, I do not dare to take a fourth part of what are offered.

HIVES FOR TRANSPORTING BEES.

Taking Advantage of the Basswood Bloom.

HOW SHALL WE CONTRIVE TO GET THEM LIGHT, WELL VENTILATED, AND SUBSTANTIAL?

THERE is a slight mistake in my article on page 226, in regard to the Simplicity cover, to make so as to serve a double purpose. You let me say, "Take a Simplicity cover, have a tin top instead of the broad board. After nailing the rim together, put on the tin in such a way that it can be taken off without much trouble. This will be a cover for ventilation when the tin is off, and a tight cover when the tin is on."

Well, friend Root, I do not know what you think of this new way of ventilating bee-hives, I think, that for ventilation it is a "boss" arrangement; but the opening is rather large to make it bee-tight at the same time. I wanted to say, tack on a piece of wire cloth first (and leave it on permanently); this, if stretched well, will be a support for the tin; if made in this way it will serve the double purpose of a tight cover; and also, when the tin is removed, will be a good cover for admitting air.

Marietta, O., April 8, 1884. R. STEHLE.

I caught your idea, any way, friend S., and it is certainly a very ingenious one. We are talking now about fixing hives especially prepared for this purpose. The only difficulty I see with the wire-cloth top with a tin cover to slip over it is, that some tired individual might sit down on these covered hives; and if he were very heavy he might go right through the tin, wire cloth, combs, and all. Hives for transportation shouldn't weigh an ounce more than what is absolutely necessary, yet they should be strong enough to stand handling, even when they are loaded with honey. For confining bees for shipment during hot weather, there is nothing like a sheet of wire cloth over the whole top; and for a powerful colony it ought to be over the whole bottom as well, or pretty nearly that. We can fix it nicely with the removable painted tin covers, and we would have these tin covers wired at the edge like dripping-pans, so they would nest into each other, for convenient form for shipment. But how about the sitting down on them? I have just made arrangements for importing some tin, manufactured to an exact size for this purpose. I hope we shall be able to get the expense down to an even 10 cents each for the dripping-pan covers. Wire cloth is now so cheap (only 2½c per sq. ft. in quantities) that this will be only a small item. Now, how shall we get a very strong hive made out of stuff, say ⅜ or ½ in. thick? Of course, such hives would not be used for wintering bees, unless it were for cellar wintering.

WHERE OUR BEES HAVE DIED, HOW SHALL WE GET OUR HIVES FILLED AGAIN?

ALSO SOMETHING ABOUT SELLING AND BUYING BEES BY THE POUND.

THERE has been a great loss in bees this past winter, and the principal conversation among bee-keepers is, "How shall we re-stock our hives? Shall we pay from 8 to 10 dollars for colonies with one or two lbs. of bees and a queen, with empty frames, and most likely with frames that will not fit our hives, and, consequently, will have to be transferred to frames of our own size?" Another says, as we can not get good strong colonies (only 8-frame nuclei) can we not purchase bees by the pound, and queens according, and thus not be cheated? and as we have got a plenty of combs and hives, not spend our money for what we do not want.

Will you please tell us about handling bees by the pound? Can they be sent long distances successfully? If so, we will most certainly buy our bees by the pound.

Another subject I wish to speak of. I see by GLEANINGS there is a strong talk of sending bees north for the basswood honey-flow. I would say, the county I reside in corners on the one that George Hilton lives in, and that our honey resources are remarkable. First, we have the usual willow, tag alder, and other pollen-bearing trees and shrubs; we also have the apple and other fruits, white clover, and on every side of my location the basswood-tree abounds as far as any one has thought that bees fly as depicted in GLEANINGS, except on one side, where the forest extends only about one mile and a half, where has once been a very dense forest of pine timber, which has been removed for several years. Fire has swept through, cleaning the ground nearly fit for cultivation; the soil being rich and moist, white clover, red and black raspberries, also blackberries, grow in profusion. Fireweeds also grow very rank, and yield a vast amount of honey. Now I would say to the bee-keeping friends, 1000 colonies would not overstock my place in basswood time; and if any one has more bees than he can well manage, I should be glad to take 100 or more colonies off his hands for a share of the honey. I will pay freight one way, re-ship the 15th of Sept., with combs filled with honey for winter use, if desired, and give the owner all the honey obtained from the basswood flow, what swarms issue to belong to me, the honey to be extracted. I should prefer the L. frame, but do not care what strain or race the bees belong to. S. J. YOUNGMAN.

Cato, Mich., April 10, 1884.

Friend Y., we do not have a bit of trouble in shipping bees by the pound, even to Texas, Florida, and other remote points. We do it, too, with nothing but the Good candy — that is, honey and pulverized sugar. It seems to me by all means the best way of buying bees, *especially* if your frames are odd-sized. The express charge on nothing but the bees and a light wire-cloth cage is *very much* less than on a hive and heavy combs, or even a nucleus. I do not believe, however, it would be the best way to ship bees to take advantage of the basswood-bloom, unless the one who receives them has plenty of empty combs to put them on. In that case they would be all right. It just now strikes me, that wired combs of fdn. would be very nice on which to ship bees to catch a honey-flow. They are very light, very strong, and a case to hold say three or four of them might be made so as to weigh but little. If bees are to be shipped to meet these honey-flows, it is going to be a problem to devise light packages to save express charges. Your plan of having bees sent you, to be sent back after the honey-flow, I do not quite like, because it leaves the way open for so much misunderstanding and dissatisfaction. I think I should rather buy or sell right out, for a fixed price, and have it done with. Taking bees on shares, or any sort of a company business, does not seem to turn out very well, so many unexpected things come up.

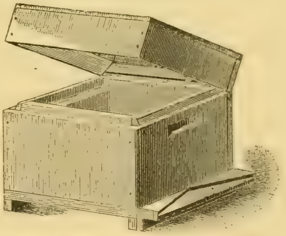
A PROFFER OF HELP.

QUESTIONS ANSWERED FREE OF CHARGE.

I WISH you would send me those letters from beginners to answer, page 245. I feel sorry for beginners, and would like to help them by telling them "how not to do it." I will not charge any thing, but must be furnished with stationery and stamps. I love to write letters and give people advice. I make this offer on trial, and if I get more on my hands than I can attend to, I will beg you to stop sending them. I ought to see a copy of your A B C book, so that I can conscientiously recommend it, if I think it good, and I believe it is, from the reports I see in GLEANINGS concerning it. I believe I know all that any beginner need know about bees, and I like to tell it. I sold a swarm of Italians last Monday to a woman, and after telling her how to do when they swarm, I gave her two copies of GLEANINGS, and she seemed surprised that there should be papers devoted exclusively to bee culture. And when I began bee-work, fourteen years ago, I did not know there was such a paper in the world. I had the bee fever in its worst form, and I wanted to ask hundreds of questions, and there was no one to answer me. I am in favor of a standard hive. Will it be the Simplicity? Two days ago I sent to you for ten; and if I like them, I will say so in every letter, if not, *not*. MAHALA B. CHADDOCK.

Vermont, Fulton Co., Ill., April 8, 1884.

I am sure I am very much obliged to you, my good friend, for your kind offer; but I am almost afraid that the friends who write me such long letters will hardly feel acquainted with you as they do with me, and may be they wouldn't feel satisfied with your answers, as you might feel inclined to give them. I think the better way will be for them to write directly to you, and you can reply. We send the copy of the A B C book, so that you may be well posted in regard to the questions they will be likely to ask. I am very glad you are in favor of a standard hive, and it seems to me the Simplicity bids fair to become a standard — or, at least, to a great extent; for almost all hive manufacturers are now furnishing either the Simplicity hive, or a hive on the general plan of the Simplicity, but perhaps with some of their own modifications. Even our friends who have so long adhered to the closed-end Quinby frame are now, at least some of them, adopting a hive that is, so far as dimensions are concerned, externally and internally, the Simplicity exactly. The hive noticed in this number, from O. J. Hetherington, illustrates the point. Below we give a picture of the Simplicity hive as it is made by friend Viallon, Bayou Goula, La.:



SIMPLICITY HIVE AS MADE BY FRIEND VIALLON.

Our friends will notice that friend V. makes a bottom-board different from the cover; that is, it has only cleats on it, back and front. My objection to this, is, that in our locality it leaves an opening for toads to get under, and we do not want any such chaps under our hives. If we close up this opening we shall have a bottom so near like a cover that I have thought it best to make them exactly alike, so they may be interchangeable. Aside from the bottom-board, the bevel to exclude rain, on the upper edge of the hive, is a little different from ours. The front and back are just as we make them, but the sides are rabbeted, instead of beveled. The question has frequently been asked me why I don't have the Simplicity covers and upper stories sit on to each other with a plain rabbet, as box covers are often made. My objection to this in place of the bevel is that there would then be a chance for them to stick together; whereas, with our arrangement there can be no sticking, even if there should be some variation in hives and covers.

Heads of Grain,
From Different Fields.

SOME SUGGESTIONS IN REGARD TO MAKING FDN.

I AM using one of your 6-inch mills, and it is just going nicely. I had trouble at first, as the rolls were rough; but now it goes well. I am using the original 9-inch mill I got of you some time ago; have not had any complaint about the bees not working it out. I have about 1000 combs of fdn. built out from it, and *perfect*. I use a table to the 9-inch; lay a sheet on straight, and it goes through straight. I have not had to adjust the rolls for a long time. They are *always* ready. I dip the thin edge in cool water before entering between the rolls, and they don't stick. I use soap root boiled down, then thinned about as I think right, and I have no sticking to the rolls. The *secret* is, that I fit a piece of wood ¾ inch over the top roll, whole length, with pieces of sponge so fastened that they *brush* the upper roll, and take the moisture, and hold it so the top roll is always wet. Could you incorporate a long brush instead of the sponge, to bear on the top of the top roll, to take the water and hold it to keep the top roll always wet? The trouble has generally been with me, with the top roll. It would get dry before the sheet was through. I use an easel for holding two sheets near the stove, on an incline, thick end down, and nearest to the stove. It will soften fast enough to make lively work for two to run the mill. I put on a dozen or two sheets at a time, and a good heat, especially if the weather is cool. The dipping-boilers don't need divisions. I took mine out. The bottom of the boilers should be smaller than the top, so that, when through dipping, we can place the boiler on the stove to heat the wax, then let it cool; and when cool, take it out and remove any sediment at the bottom. A little hot water at the bottom of the dipping-boiler prevents *caking* at the bottom, and keeps wax in condition for dipping longer.

Wax is high and scarce. I paid 27½ and 30 cts. in San Francisco.

More rain; ground soaked; bees swarming.

Napa City, Cal., Apr. 12, 1884. J. D. ENAS.

Friend E. uses the soap root, which is natural to his region. We have used soap bark and a great many other lubricators, but now prefer common starch. Very likely a row of sponges, or a brush along the top roll, to keep it lubricated, would be a good idea. The suggestions in regard to having the dipping - tanks made tapering may be a good one; but we always pour out the wax, instead of allowing it to cool in these tanks. —The objection to putting in thumb-screws to adjust the thickness of the fdn. is, that the hands would be all the time turning them.—Friend E., we think you very fortunate indeed if you can get wax from 27½ to 30 cts. We are glad to get it for 33 cash or 35 trade; and for very nice clear cakes of bright yellow, we would pay 35 cts. cash.

REVERSIBLE FRAMES; DOES FDN. PAY IN BROOD-FRAMES?

I still think the best reversing device is like the sample I sent you some time ago, to slip on top and bottom bar like a lid on a Peet cage. But after being said what there has been, I have decided to wait till the problem is better solved. However, I am satisfied a reversible frame has decided advantages for raising comb honey. I should like to know how you turn a Simplicity hive over, without letting the rain run in at the bevels. I turned one over and cut grooves in the lower ends: fastened frames in; turned back and put a crate on top of bottom-bars, and it worked well enough; but I fear it is getting to be too much fixing, and perhaps the reversing devices are too. However, it is a good way in having foundation built out. And, by the way, how is it that, while we are fussing with fdn., feeders, etc., there are those who use them little, and certainly their reports year after year show that they are making their business pay? G. M. Doolittle says he has never used 10 lbs. of fdn. in brood-frames.

Marshallville, O., April 15. C. WECKESSER.

It is true, friend W., that if you turn a Simplicity hive over, the rain will run in at the joints; but for that matter, a great many use hives tiered up one above another, sitting squarely on each other without any bevels at all to keep the water out. If friend Doolittle says he has never used 10 lbs. of fdn. in brood-frames, I should say that he has never accomplished nearly what he might do. Perhaps it may be explained in this way: That he has plenty of nice brood-combs from year to year, and therefore has no occasion to have new ones built. He does not sell bees, as we do, you know. If friend D. were commencing with half a dozen colonies, and wished to build up to 100 or more, my opinion is, that he could afford to use fdn. for brood-apartments, even if it cost him $2.00 per lb. Of course, he or any one else has a right to a different opinion, if he chooses.

HONEY-DEW FROM PEACH-LEAVES.

April 4th my bees worked on the young peach limbs and leaves; again on the 9th; the day was cloudy, with gentle north wind. The bees worked very busily all day on peach-leaves, almost neglecting black and red haw, both of which are now in full bloom, and not far away. Was it honey-dew? I never saw the like before. Last year I took lessons in bee-keeping from your old friend Daniel Kepler.

ARCH. A. MOORE.

Hubbard City, Texas, April 11, 1884.

I suppose it was honey-dew, friend M. Did you look carefully to see if there were any aphides on or about the leaves? If there were none, we shall have to conclude it was an exudation of another kind, from the leaf itself.

GRANULATED SUGAR FOR FEEDING BEES.

On page 140 I see you recommend granulated sugar for feeding. If it is intended to be stirred into honey, for any benefit it will be to the bees, from experience I would as soon have so much sand. The sugar will not dissolve, and will be found at the bottom of the hive. W. P. TAYLOR.

Fitzroy Harbor, Ont., Can., Feb. 26, 1884.

Friend T., are you not a little positive in your remarks? I know that bees do sometimes lick out the honey, and let the sugar crumble to the bottom; but this has been the exception rather than the rule with us, and we have used it largely. Perhaps you are not aware that bees will often subsist on granulated sugar alone, without any water or any thing else; and after it has rattled to the bottom of the hive they will sometimes lick it up. You can satisfy yourself of this by confining the bees to their hives, so they can not carry it away, and you can also watch a bee while he eats up a dry grain of sugar. Of course, some water in a sponge near by greatly facilitates the progress of working up dry sugar; but it is rather late in the day to declare that it is worth no more than so much sand.

FRIEND DUFF'S EXTRAVAGANT STATEMENTS IN HIS CIRCULAR.

I forgot to add in my circular, that those reports of 300, 400, 500, and 1000 lbs. I found in GLEANINGS IN BEE CULTURE, edited by A. I. Root, of Medina, Ohio. I had "orter" give my authority, I " 'spect."

Flat Ridge, Ohio, March 6, 1884. A. H. DUFF.

Perhaps so, friend D.; but the statements in GLEANINGS were not intended to convey the idea that anyone could do it any season. They were simply reports indicating what a powerful colony of bees might do under extremely favorable circumstances, with a heavy flow of honey. Very likely GLEANINGS should give reports with more qualification and explanation than it has done, and perhaps we had better be a little more careful in this line *all around.*

TALKING TO SOME PURPOSE.

I have earned a dollar in getting the few subscribers I have. If there is any value in talk, perhaps I talked too much; but I don't know; not much used to the business of canvassing for papers. But I made quite a long speech the other day before the officers of the County Agricultural Society, to get the premium raised on honey. The premium has been $1.00 for best, 50 cents for second. I got it raised to $5.00 for first on comb honey, $3.00 for second, and $2.00 for third; the same on extracted. That speech enabled me to get one subscriber for GLEANINGS. E. C. HUBBARD.

Water Valley, N. Y., April 11, 1884.

Well, friend H., if you got the premiums raised from 50 cents and a dollar up to two, three, and five dollars, I should think that your talking amounted to something, any way. Perhaps it is a good suggestion to a good many of us, to look after this matter of fairs and premiums.

ITALIAN BEES IN MANITOBA.

From the hive of bees you expressed to me last July I got 60 lbs. of very fine comb honey. I did not send for the upper story, for I didn't think I would need one the first season. I made a box the same size of the hive, and two inches higher, and put the extra frame you sent with the bees, in the box. The bees built comb in both sides of the frame. I wintered them in a pit with ventilating-pipe up through the center. I reported my bees to the *Free Press* the same date of this letter, asking the editor to send you the paper with report. At this date my bees are in good condition—one colony of Italians in Simplicity hive, and one colony of blacks in box hive.

JOHN HEMSWORTH.

Whitewood, Manitoba, March 25, 1884.

FRIEND H.'S REPORT.

I kept bees two seasons in Manitoba, and one in the Northwest. Through carelessness and mismanagement I have not increased my stock very much. My bees started to work on the blossoms of the soft-maple, in the valley of Pipestone Creek, about the 20th of April, and they worked all through May on the blossom of willows. July and August are the best months for honey, when the prairie flowers are in bloom. I got only 16 lbs. of honey from one hive of black bees, and 60 lbs. from one hive of Italians. I have not wintered Italian bees yet; but if they stand the winter as well as the blacks, I will make report in the spring. The Italians were sent me by express from Medina, O., and I received them on the 13th of July. They were eight days on the road, and they carried in pollen and honey in two hours after they were liberated. They are much larger than the black bees, and can reach the honey in the prairie-flowers better. Manitoba honey, for quality and flavor, I don't think can be surpassed.

HONEY-CROP OF CANADA FOR 1880, AS PER CENSUS.

Inclosed please find the hone-ycrop of Canada, as given in the last census, in which you will notice Manitoba, 1080 lbs., which is not so bad for so cold a climate and a new country. WM. MOWBRAY.

Sarnia, Ont., Can., April 1, 1884.

	LBS.
Prince Edward Island	14,945
Nova Scotia	24,500
New Brunswick	78,203
Quebec	559,024
Ontario	1,197,628
Manitoba	1,080
British Columbia	365
Territories	—
Or 937 tons, 1745 lbs.	1,875,745

Did you ever! Even Manitoba, that some of the friends have asked about, inquiring whether bees could be kept there at all, has given 1080 lbs. Since my visit to Canada last fall, I have a great deal more respect for the brethren over there than I used to have. It does us good to stir around among people a little, you see.

FRIEND MUTH AND THE FLOOD.

I was away from home during two weeks of our flood, knowing above high-water mark was my own location; and when reaching home I landed per canal-boat behind my house, the only inlet to the city at the time. It was a trying time, which a number of my fellow-citizens will surely remember. I gave my bees a good overhauling in February, when I found all in splendid condition, in spite of our 24° below zero. Those of my stands were strongest which had their entrance open their entire width.

Cincinnati, O., March 12, 1884. C. F. MUTH.

A GOOD REPORT FROM TEXAS.

Last year gave us a short honey-crop; and, as a consequence, many bees in old gums starved out. I have 155 colonies in good condition, carrying in pollen, and breeding rapidly. In this country we have neither spring dwindling nor winter troubles. I use the Simplicity hive and the tiering-up system. I took last year 4500 lbs. extracted honey, of excellent quality. I sell extracted at 10 cts. People in the country here will pay no more for nice comb honey than for extracted. W. A. MCPHAIL.

Gallinas, Texas, March 6, 1884.

HOW TO FEED CANDIED HONEY.

My bees are all alive and healthy so far. I prepared them for winter last fall by reducing them to 4, 5, and 6 frames, according to the strength of the colony, leaving them 7 or 8 lbs. of coffee A sugar each, besides what honey they had. I think they had 15 or 20 lbs. each. Some of them have been out of honey for about a month, and I am now feeding candied honey on top the frames, which is the best way to feed that I have ever found.

Cicero, Ind., March 11, 1884. ELIAS BERG.

MOVING BEES TO CATCH THE BASSWOOD BLOOM.

Friend Root:—I have read every article published in GLEANINGS upon the above subject, and I wish to say that we have a field for basswood that is unsurpassed by any in the country, located on a railroad running north and south. Last year I saw tons of honey going to waste, and hundreds of trees, and not a bee to be seen on them. My boy broke off branches, and at times shook drops of honey from them. The hills here are a bright golden hue for three or four weeks, beginning about the 1st of July. We are about 125 miles north of Kansas City, and I would like to correspond with some of the bee-keepers in that section between this and the time of the honey-harvest. There are but few bees kept here, and some object to their being kept, because of their getting in the timber and inducing people to cut it down; but bees can be, and are, kept all the same. Bees need not be hauled more than one mile from the railroad to the timber.

FILLING EDGES OF SECTIONS SO AS TO AVOID PROPOLIS.

It is my opinion, that if the edges of sections are *filled* as all woods are that are to be finished, as furniture, etc., bees would not be very likely to cover them with propolis. Being an old hand in that line, I can tell you just how it is done, or how I am doing my own. For filling, take equal parts of linseed oil —either raw or boiled, but raw is better for every thing—benzine or turpentine, and Japan varnish; and to each quart of mixture add ¼ lb. wax or paraffine. Now add any kind of pulverized starch until you have a thick paint. Now place the sections so that the edges of 500 can be brushed over with a good bristle brush about one-third or one-half worn. When the filling begins to look as though it were drying, or looks as though the oil had been absorbed, take a piece of burlap and rub all the surplus off; and as you rub off, rub the filling in; then let them dry. The time and expense is but a trifle; any one can do the work, if careful. It is important to do the rubbing off at the proper time, and the time depends upon the weather and the Japan. After dry (next day or so), if a coat of shellac varnish, made of bleached shellac, 2½ lbs. to a gallon of alcohol (or cheaper, wood alcohol), is added, all the edges will have a fine appearance; or if soiled, can be cleaned without any trouble. A. COLLINS.

Milton, Mo., April 16, 1884.

Your suggestion is a valuable one, friend C.; but I am inclined to think, that rubbing on boiled linseed oil with perhaps a little varnish with it would be sufficient. If the bees find the surface smooth and waxy already, I do not believe they would attempt to put any thing on it; and if they did, the linseed oil would give the surface enough of an oily nature to prevent the propolis from sticking. I have oiled woodwork where it was exposed to the bees so that the propolis would readily cleave off. It cleaves off pretty well from the glossy sides of the enamel sheets, and I presume a very little oil would make it so it would not stick at all. In regard to the appearance of the edges of the sections, would customers fancy a filled edge? I should want to see it tried before deciding.

ALSIKE CLOVER.

I mail you with this a sample of alsike-clover seed of our own raising. I have 14½ bushels for sale. It was the honey-plant par excellence here this season. Five colonies and their increase gave over 1000 lbs. of surplus honey, and more than half of it came from five acres of alsike. It bloomed profusely and continuously for over three weeks; and while it lasted, the bees worked on it exclusively and in preference to the abundant white clover in the pastures. Walking over the pastures one would scarcely see a bee; but on going into the alsike patch, you would seem to be in the midst of a swarm.

Urbana, O., Feb. 2, 1884. JOHN C. BARNETT.

Perhaps I may remark, that we have a large stock of very nice clean alsike-clover seed on hand at the present writing, at the old standard price of $10 per bushel. Our trade this year has amounted to hundreds of bushels, and yet the supply of the seed is not sufficient to bring the price down very materially. If the bee-keepers wish to raise pasturage for their bees, it seems to me there is no other plant that offers the inducements that alsike does.

A BEE-CELLAR WITH A SHOP ABOVE IT.

We were intending to build this summer a stone cellar for wintering bees, and shop above, to be used for extracting, etc., in the summer, and a work-shop in the winter. Would it suit, or would there be too much noise above? Will sand or sawdust, or cheap felt, lined in the floor, deaden the sound enough so as not to disturb the bees? W. A. MURKAR.

Aberdour, Ont., Can., April 7, 1884.

Friend M., there would be no objection to the plan you propose, if you have your hives supported entirely on the ground. If the supports on which they rest touch any posts connected with the floor, the jar of the floor would disturb them; but otherwise you will need no extra thickness on the floor above.

WHITE CLOVER PRODUCING NO HONEY.

We have nearly a two-hundred acre farm, and I intend to sow 22 acres of silverhull buckwheat for my own and neighbors' bees; and if alsike will grow and do well here, I shall have a good many acres of that in time. I do not want to compel my bees to fly 3 or 4 miles to carry honey for *me*. I should think honey might be made a reasonably sure crop, managed in that way. Last year our bees did not get a drop of honey from the white clover. The clover was very plentiful all around, but no bees on the flowers. Did you ever have such experience? I did not get much honey, but the little fellows did the best they could. E. B. HOKE.

Cordova, Ill., April 17, 1884.

Yes, my young friend, we have seen times when the fields were white with the clover-bloom, and yet the bees seemed unable to find more than enough to barely live on. This is not very usual, however; and generally before the bloom is gone there comes a sudden change, and honey comes in at least pretty fairly.

A WORD IN FAVOR OF THE CYPRIANS.

The Cyprian bees are the most valuable we have got. They will not swarm, if given room enough, and will make more honey than the Italians, and they will not contrive so many ways to use it up as the Italians. When our basswood ceases here, the Italians rush their brood-rearing to the fullest extent, while the Cyprians seem to slacken up and raise no more than the little honey and bee-bread they gather will permit. I have got swarms of Italians that had 150 lbs. the middle of last July that I shall have to feed through April, while Cyprians that had the same amount have nearly all of it now; and, at the same time, are the fullest of bees, and every one is bent on self-defense. A. W. CHENEY.

Kanawha Falls, W. Va., Mar. 24, 1884.

Friend C., our experience has been that the Cyprians and Holy-Lands are more apt to rear brood out of season than the Italians. Surely you can not mean that a single swarm of bees has consumed 150 lbs. since last July. They must have been monstrous swarms, or else you have made a mistake of a hundred pounds or so.

QUEENS THAT WON'T LAY.

The five last queens I got from you last season turned out all right but one. I introduced her to a colony successfully, but, lo and behold! she never laid an egg after I got her. Now, what do you suppose was the matter with her? I kept her for seven weeks. Some days she looked longer than others, and I was sure, almost, she was going to make a start, but she did not. The colony would keep building queen-cells. I gave them a frame of brood several times to keep the colony from running down, so at the end of seven weeks I had to pinch her head off and give them another one.

FERTILIZATION OF THE QUEEN-BEE; SOME MORE FACTS IN THE MATTER.

I was very much interested in the observations of J. S. Hughes, in March GLEANINGS, page 160, of drones congregating in large numbers in the air, to which queens resort to become fertilized; but they sometimes become fertilized without going very far from the apiary. I saw a queen mating with a drone last season about 1 o'clock in the afternoon, not more than 15 feet above the ground, so you see I had a good chance to see proceedings. Their abdomens were together; they seemed to be pulling in opposite directions until they became separated, and arose out of sight. I was attracted by the noise of the drone, for it was a very still day, so I believe they often become fertilized sometimes very near home, when drones are flying pretty thick.

SOME KIND WORDS IN CLOSING.

While I am bothering you with this letter, for I presume you have hundreds to read, I must say I admire the Home readings very much. They are like manna to the soul. I always save them for Sunday reading. There is always some encouragement in them—something to lift us upward and onward. They will reach hundreds who never enter a church of any kind. They will be like bread cast upon the water. Go on, my brother, go on; you will at last win the well-fought day when you come to cross the swelling flood. W. J. SAUNDERS.

Meaford, Ontario, Can., March 21, 1884.

We have occasionally a queen such as you describe, friend B., or sometimes they won't commence laying in spring; and I have seen them increase in size until they looked like a queen in the height of the season. One such queen commenced laying after I had put her into a large thrifty colony, but would not in a nucleus where she was. Of course, it would be our loss, for we do not want you to pay for any queen that never laid an egg. —I am very much obliged to you, my good friend, not only for the facts you furnish, but for your concluding kind words. I have tried to do the will of the Master, but often feel sad to think I do it so poorly amid the constantly increasing array of busy cares. Do not forget to pray for me.

SOME WORDS OF ENCOURAGEMENT FROM FRIEND PARSHALL.

It has been a long time since I have been to see you. The first of last August I wrote up a good letter for Blasted Hopes; and after I got it finished I was ashamed to complain, and tore it up. The first of August I had not got a single pound of honey, nor had a swarm of bees; the 15th I had my first swarm, and by the 15th of Sept. I had taken 1000 lbs. comb honey, and five 22-gallon barrels of extracted. Our Sunday-school still lives, and is doing well with such a poor tool as I for superintendent.

Now for some of my troubles. The 9th of December we lost our only daughter, 16 years old. She had "walked with God" for three years, "and was not, for God took her." Oh what a vacant place there is in our family! But Christ is with us, and is precious. My prayer is, that God may bless you and all the boys and girls who are helping you. Your brother in Christ, JAMES PARSHALL.

Skidmore, Mo., April 21, 1884.

Friend P., you will always prosper, not only with bees, but with the Sunday-school, just so long as you keep that hopeful spirit, and do not forget to trust God. May God help you in your affliction from the death of your loved one, and may you be enabled to still say, "Though he slay me, yet will I trust in him."

WHAT SHALL WE USE FOR BEE-FEED?

Should this reach you in time, will you please state in GLEANINGS if you have any grape (or corn) sugar, for feeding bees, and give price? Also please give net cost of a barrel of amber sugar, shipped from your place. You would doubtless very much oblige a number of your friends by stating if it would be better to purchase cheap sugar for spring feeding, or a low grade of extracted honey.

JOHN BUMGARDNER, JR.

Kimbolton, O., March 25, 1884.

Friend B., the extremely low price cane sugar is now, renders it of little object to use either grape or amber sugar. Granulated sugar can now be bought by the barrel in New York for 8 cents. The cheapest amber sugar that I know of is 6 cents, and grape sugar is worth 4¾. We have not kept grape sugar for sale for some years, but it can be purchased of the Buffalo Grape Sugar Co., Buffalo, N. Y. While grape sugar, amber sugar, and cheap honey may be used safely for spring feeding, after the weather is warm enough so the bees can fly, or during a dearth in the summer, I would not use any of them at any season of the year, when there would be a likelihood that any of them might remain in the combs for winter use. Granulated sugar is cheaper than you would be likely to get cheap honey, and it is absolutely safe wintering, while these other things are not. Honey stored in the combs, and sealed up during the clover and basswood bloom, is perhaps as safe as granulated sugar, although I do not consider it any better.

A SUBSTITUTE FOR SMOKE IN HANDLING BEES.

I have been looking up something in place of smoke for the bees. I have used a drug instead for the last three years, and found it to be better and nicer. I will give it to my bee-friends to use. It is my own recipe and no patent. Oil of wintergreen. Try and get the genuine article, and I will guarantee it answers as well as smoke. I put two drops on my hands, then rub them together, then rub my hands on my face. If bees are cross, rub some on a cloth and put it on top of the combs, and in a short time the bees will boil out at the front of the hive.

S. SPIDLE.

Easton, Wayne Co., Ohio, Mar. 20, 1884.

Well, is not your substitute rather more expensive than rotten wood, friend S.? If I am correct, oil of wintergreen, when pure, costs a big lot of money; and if you use but a very small portion at a time, having so costly a drug about will be rather expensive, will it not? We should be glad of a report from some of the friends who feel inclined to try the above.

OUR BUSINESS.

One of the very evident things just now to any one who takes the trouble to observe, is, that a great deal of money is being made in ordinary bee-keeping. Quietly and steadily a majority of those engaged in it on a proper basis are accumulating a competency. This is true of bee-keepers as a class; and the fact that men are met with who are apparently losing ground in the business counts for nothing as an argument against it. No business is known to men in which everybody can succeed, and occasionally one is met whose failure is only the greater because he had the greater opportunity. A, B, C, are doing quite well with their bees; but E complains that he is losing money. This proves nothing, except that the others understand the business, and E does not. Those who find that bee-keeping does not pay in these days, need to change their stock or remodel their methods; something is wrong, and they can not be too prompt in finding out what it is. But whatever the trouble may be, reader, rest assured that the fault does not lie in the business.

FR. HOLTKE.

Carlstadt, N. J., March 20, 1884.

REPORT FROM GRAND-RIVER APIARY FOR 1883.

I commenced the season with 13 colonies, but not as strong as they should have been to give the best results; and not being in the best of locations, I did not look for much profit. From two Italian queens I raised 18, and from my 13 swarms I increased to 30, and bought 3 for $3 per swarm, furnishing the hives myself. In preparing for winter I reduced my bees to 28 colonies, and packed them in clover chaff. I received about 600 lbs. of extracted honey, and 50 lbs. of comb honey in large frames. I find the only way to make bees pay is by economy and industry.

LUTHER B. KENYON.

Lyons, Ionia Co., Mich.

WHY DO BEES SOMETIMES KILL THEIR QUEENS IN THE SPRING?

Will you please give us a chapter in GLEANINGS as to the cause of bees killing their own queen in the spring? I have lost several that were laying all right a month ago. One queen I found in a ball, and nearly dead, and a well-developed queen-cell in the hive at the time. The others did not start cells till the queen was dead.

GEO. E. HOVEY.

Holland, O., April 14, 1884.

Friend H., there may be several causes for this strange behavior. Perhaps your hives are too close together, and some of the bees had got into the wrong hive. May be you have been moving your hives, or robbing has got started in your apiary When our bees got badly demoralized by the old spring dwindling, they sometimes used to attack their queens, and kill them when it seemed to me they did it just because they had become weak and discouraged, and, as poor humanity often does, made a bad matter worse by cutting off the only hope they had of bringing up again.

POISONOUS HONEY FROM THE MOUNTAIN LAUREL.

This evening I concluded I would go up on the mountain-side and see if I could find out from what my bees were gathering such enormous quantities of pollen. So, putting A B C under my arm, I began scaling the rough and steep mountain. I had not gone far before I came upon a perfect mat of what is called by the people here, "mountain laurel," which was just blooming out in a purple pea-shaped bloom. I saw bees gathering honey from it. I turned to page 163 of A B C, and read Dr. Grammer's article on poisonous honey. I am troubled about what to do. If this is the same laurel he speaks of, I will give a description of it. It is a low thick bush, with small leaves, in size about like black locust, but they are very thick, as it is an evergreen. It bears an oblong pod which looks something like a bean, or more like a pea. These peas mature in the fall; and when hulled they are perfectly red, nearly round, and very hard. It is altogether different from what we called laurel in Kentucky. Can some bee-keeping brother tell me what it is, and what I should do, in case it yields poisonous honey? Were it not for this trouble, I can not see any thing to keep bees from doing well here, as we have a great many honey-producing shrubs and plants, chief among which are the live-oak, white sumac, redbud, Spanish dagger, and the so-called "bee-bush," which bears a profusion of delicate white flowers, very fragrant, and said to bloom afresh after every rain, and I saw them literally covered with bees last summer and fall.

Burnet, Texas, Mar. 26, 1884. C. W. HARDY.

I shouldn't be alarmed, friend H., till I had taken some of this honey from the hives, freshly gathered, and made a test of it on myself. Take a little taste. If it makes you sick, then you may be alarmed; but if it produces none of the symptoms mentioned in the A B C book, I shouldn't be troubled about it. Perhaps they do not get enough of the honey to produce any disagreeable effect, and may be it is not the same in all localities.

HAVING SEVERAL APIARIES LOCATED 4 OR 5 MILES APART.

I have 300 colonies of bees now. All wintered outdoors on their summer stands, and I don't think I ever had bees in better condition at this time of the year. I have them in 5 different apiaries, from 4 to 7 miles from home. I shall start another yard this spring, as I think they do better when there are not over 50, spring count, in a place. I hire boys to help do the work. We work for extracted honey, and have nobody to hive bees on Sunday or any other day, except when we are there, once in 8 or 10 days. We got 22,000 lbs. last year, and am looking for 30,000 this year.

EDWIN FRANCE.

Platteville, Wis., April 6, 1884.

In your price list you say: "If the chaff hives are well supplied with stores, we hope they will need no attention whatever, from the time honey ceases until it comes again the next season." Now, I would like to know if it *is* or *is not* an established fact, that bees are as safe in chaff hives as any other way in winter, and summer also. I see you speak of chaff-hive apiaries, in A B C book. Do they use the chaff hive? if so, do they remove the chaff? In winter do you have the upper story full of frames, or not? and which story do the bees occupy?

Brock, Neb., Mar. 22. **Mrs. Addie I. Johnston.**

We think bees are about as safe in chaff hives, all things considered, as anywhere else, though I suppose during very severe winters they might be saved where kept in the cellar, where they would perish outside in chaff hives. The chaff is always to remain in the hive, of course, for we need it in summer almost as much as in the winter, to protect the walls of the hives from the intense heat of a July sun. Taking the chaff out and putting it back would be altogether too much trouble. The bees are always wintered in the lower story. If wintered in the upper story, we could not protect them as we do where they are below. The upper story is for surplus honey in summer, and to hold the chaff cushion in winter.

HAVING LETTERS OR FIGURES BUILT IN COMB HONEY.

I want to give the bee-folks some hints in regard to having bees make the letters on comb honey. Now, so far as I have experimented, I am satisfied that it is a very simple thing to have the bees make nice raised letters on comb honey, and I have had some raised nearly one-half inch, and they can be seen 100 feet off very plainly. Mine are made in Langstroth frames, and are about four inches in size. I can't give my mode of experiment for it would be too long, and I don't think of much use. The principle is what I wish to let them know, and here it is: Take a piece of tin, and cut the letters out, the same as for a brand. Now place the tin close up to a card of unfinished comb, and let the bees do the rest; and if you do your part with a little skill and science, you will be rewarded with as fine delicately finished letters as you could wish. Now, Mr. Root, if you think this would help friend Lawson, or any one, put it in Gleanings.

C. E. Barber.

Langford, Boulder Co., Col., Jan. 24, 1884.

BROOD-COMBS BUILT ON THIN FOUNDATION.

Will comb honey built on your thin fdn. have a tough center? Do you have any complaints from customers? What kind of lubricator do you use? How do you prepare it? **W. H. Kerr.**

Waynestown, Ind., Mar. 3, 1884.

We have had no complaint of the tough center in comb honey built on our fdn. for several years. The only lubricator we use is starch, made just as it is used for starching clothes. We get a cheap quality of starch by the barrel, that answers just as well as any. To make fdn. with the base nearly as thin as that of natural comb, we are obliged to screw the mill down very close, and roll narrow strips, say just wide enough for the section box. It is a pretty difficult matter to make sheets wide enough for brood-combs, with the bases as thin as they should be for section boxes.

Blasted Hopes.

Or Letters from Those Who have Made Bee Culture a Failure.

I SEE no "bee talk" in Gleanings from Kentucky, and feel that this section should have at least one representative. I will, with your permission, submit the following for Blasted Hopes. Out of the 10 strong colonies packed in excellent winter quarters, but 3 are now alive (just alive, and queenless). Two near neighbors, one who had 35, lost all, and the other, with 32, has but one colony living. Seven miles south of us, on the Cumberland River, bees fared better, although several parties report severe losses, and all believe it to be a regular case of "freeze out," as many colonies had stores enough to winter them through. The only party I can hear from who lost none had five colonies in the old-style gum, and reports all strong and in good condition, which seems to be one point in favor of the log gum. However, with all our losses, we are not completety discouraged. As for myself, I don't think I could feel thoroughly in the business without one or two failures. **A. T. Shotwell.**

Somerset, Ky., March 18, 1884.

If you want reports of blasted hopes, I will send you mine, although my hopes are not really blasted, for I have got one colony left out of 6, which is better than some bee-keepers have done in this vicinity. About the first of last November I packed my 6 colonies with straw, after Cook's plan, putting 3 in one box by moving them a foot or so at a time, until they stoed side by side. Feb. 19th they had a fly; 5 were all right, and one was dead. March 21st they had another fly, when all were dead but two, one of which was queenless and very weak; the other had brood and a queen, but was rather weak, so I united them without any quarreling whatever, and they now appear to be all right. I have kept bees almost a year, and I have come to this conclusion: Bee-keeping is a good business, but it would be a great deal better if we only knew just how to fix our bees in the fall so that we could be sure they would come out in healthy condition in the spring.

Howard L. Hutchinson, 0—1.

May, Tuscola Co., Mich., Apr. 11, 1884.

BLASTED HOPES — BUDDING AGAIN.

Six years ago I caught the bee fever. A friend came to see me with the I X L hive, and gave me a few lessons in transferring, and how to care for them. We bought 15 or 20 colonies in box hives; transferred all but one; divided, spaced off our apiary, and took a look at them once a week; got about 100 lbs. of honey in the fall; packed them away for winter — 56 colonies. In the spring we had 55 empty hives, and one (the box hive) colony of black bees. Our ardor had considerably abated. From that one box hive we have 12 good strong colonies this spring. When a child, mother told me if I lost my knife, to go and look for it as near as I could recollect where I had it last; and so after reading Gleanings one year, which a friend had kindly sent me, I ordered your A B C book, and from that I learned that bee-keeping, to be successful, must be followed as any other business — must be made a specialty, and looked after more frequently than "once a week." **L. F. Stoddard.**

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, MAY 1, 1884.

Charity rejoiceth not in iniquity, but rejoiceth in the truth.
—I. COR. 13:6.

WE have now 6782 names this 29th day of April, 1884. Don't you think it a little encouraging, friends? We do.

A GOOD friend takes us to task for crediting Pope with the little couplet which appears on page 273 of our last issue. He shows conclusively that Shakespeare wrote it, though with somewhat of a different wording. We did not mean to rob William of any of his well-earned laurels, and hope this will make it all right.

UNTESTED QUEENS WANTED.

UNTIL further notice we will pay 90 cents each for untested queens. At present we are prepared to ship by return mail queens, of any grade, except blacks and hybrids. We have none of either kind just now in our apiary. We have a fine stock of imported queens on hand, and another lot coming from Italy as soon as the weather is warm enough. All orders we expect to go by return mail or express.

WHITE CLOVER HONEY AT TEN CENTS PER POUND.

WE have just received 50 cans of beautiful white-clover honey, which we offer to any who may want it, at an even 10 cents per pound. The cans are five-gallon iron-jacket, and are all ready to ship anywhere. There are about 58 lbs. of honey in each can, and 68 cents for the can itself would make $6.48. But to make even change we will ship them to any address for an even $6.40. The honey is equal to any I have ever handled.

PROF. COOK'S BOOK, "INJURIOUS INSECTS."

SOME of the friends will be glad to know that we have the above little book in stock again, and can furnish copies promptly on receipt of price, 25 cts. If wanted by mail, add 3 cents more for postage. Injurious insects sometimes do a "heap of trouble" in a little while, which might be saved if we knew how to manage; therefore the little book will oftentimes pay many times its cost in a little while.

HOW TO SEND MONEY BY REGISTERED LETTER.

WHEN you send money by registered letter, put the money in the envelope yourself, and seal it up. Then have your postmaster register it. Do not, under any circumstances, give the money to your postmaster. In fact, he is prohibited by law from receiving or inclosing it. Several losses have occurred recently where the money was handed to the postmaster to inclose. The envelope came through, but not the money—or, at least, only a part of it.

NOS. 30 AND 36 WIRE ON 1-LB. SPOOLS.

WE have just got our spool-wire folks started on the above, and are now able to furnish No. 30, on 1-lb. spools, for 20 cents; 10 spools for $1.85; 100 spools for $17.50. No. 36 wire, 40 cents per spool; 10 spools, $3.75; 100 spools, $35. The latter comes high, because it is a pretty big job to wind a pound of No. 36 on a spool. If any of you have handled any of the latter very much, you will know all about it. If wanted by mail, add 20 cents each for postage.

THE SECTION BUSINESS AT THE PRESENT DATE.

As the weather has been beautiful for drying basswood lumber, we are now crowding our factory on sections to the utmost; but at the rate orders are pouring in, it will be some little time yet before we can fill orders for sections promptly. The "Home of the Honey-Bees" is doing more business now than it ever did before at this season of the year; and with the way orders are pouring in by each mail, it would almost seem as if our establishment would have to have still another enlargement. Mail and express orders go with little if any delay; and orders by freight, with but few exceptions, for any thing that does not include sections.

SEPARATORS OF THINNER TIN.

SOME of the friends will remember, that a few years ago we furnished separators of what is called "tagger's" tin. This tin is only about one-half as thick as the regular kind, and therefore would carry off less of the animal heat from the hive, for metals in *thin* sheets are much better non-conductors than sheets of greater thickness. The reason why we have not used it of late was, that the price was too great; but we have recently run on to a lot of 50 boxes. It is much lighter for shipment, and it can be fastened to frames with wire nails, without pricking any holes. As it kinks up or bends a little easier, it will have to have a little more care; but we think in every other respect it is greatly to be preferred to tin of the ordinary thickness.

HIVES AND SECTIONS BY EXPRESS.

NOW, friends, look out about ordering heavy goods by express; that is, remember that express charges are generally *awful* on any thing weighing 100 lbs. or more. We are puzzled every day to know whether some of you knew what you were doing when you said "express" or not; therefore if you are posted about this express business, and expect to pay all the goods are worth, or more too, by way of express charges, just add to the end of your letter, "I know very well what the express charges are likely to be on this shipment; but I must have the goods at once and expect to pay accordingly." Then you see we will know exactly what to do. A few days ago, a friend down South made quite a good-sized order, and said distinctly, "Send them by express." The express charges would have been about $45.00, and he thanked us with some energy for having disobeyed orders, and sent the goods by freight when he told us by express.

A REVERSIBLE FRAME THAT IS ALIKE ALL AROUND, AND CAN BE USED AS WELL ONE SIDE UP AS THE OTHER.

SOME of the friends may have noticed an advertisement of O. J. Hetherington, of East Saginaw, Mich., in regard to a reversible-frame bee-hive. Knowing that friend H. rarely comes out in public with a thing unless it is just right, we sent for a sample, and I confess the hive comes the nearest to being a rival of the Simplicity hive of any thing I have ever before seen. Externally it is a Simplicity hive; in fact, a Simplicity hive can be, with a little expense, changed so as to take this reversible frame. The frame, as I suspected, is a modification of the old Quinby closed-end frame. But this is not closed end. It rests on metal corners; will go in just as well one side up as another. I should really like to try handling bees in this hive one season, and I think we will put bees in this one to try it. The frame is exactly the same as the L. frame. Wide frames to hold sections are made in the same way, and the whole arrangement is admirable. We are having engravings made, and propose to illustrate it fully in our next number. There may be difficulties that will develop themselves when we come to work it; but there are some very decided advantages in it over a suspended frame, aside from this feature of the frames being reversible. The metal corner that the frame rests on is the invention, I am told, of our old friend Vandervort, of Sprout Brook, N. Y. Friend H. writes that he has used the hive three or four years past.

So far as reports have been received, we judge that the matter of wintering has been more favorable than for many years; and if I am correct, there are more live bees now in the United States, and Canada too, perhaps, than ever before since the world began.

CIRCULARS RECEIVED.

W. H. Proctor, Fair Haven, Vt., sends us a 4-page price list. Bees and queens are his specialty.

J. P. McGregor, Freeland Saginaw Co., Mich., sends a 1-page price list; specialty, section boxes and hives.

H. A. Goodrich, Massey, Hill Co., Texas, gives us prices of queens, on a postal card.

T. L Thornton, Dividing Ridge, Ky., sends out a 1-page circular; specialties, honey-extractors, hives, and sections.

B. P. Barber & Co., Colebrook, Ashtabula Co., O., send out a 12-page price list of general bee-supplies and job printing.

J. S. Holcombe & Co., Lambertville, N. J , send out a 4-page circular, mostly of poultry; hives, bees, queens, on last page.

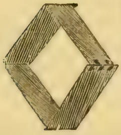
E. F Smith, Smyrna, Chenango Co., N. Y, sends out a 10-page price list. Friend S. furnishes supplies in general; and among them, kegs for extracted honey.

The Berlin Fruit-box Co., Berlin Heights, O., send out another circular in regard to their sections made by slicing instead of sawing. Although we can hardly agree fully, that they are as nice as nicely sawn sections, yet as their customers seem to be well pleased with them, and as the price is less, no doubt they will meet with a good sale. If you are in doubt in regard to the matter, you can get a sample thousand for only $4.00.

S. C. Perry, Portland, Ionia Co., Mich., sends out an instructive 4-page price list; specialty, bees in brood by the thousand. Friend P. has a table of prices of worker bees by the thousand. The first week in May, 60 cents per 1000. Then they go down 5 cts. less each week until the 1st of July, when they are offered for only 18 cts. per 1000. Just think of that, friends! a whole thousand of yellow-winged worker bees for only 18 c.! Friend P., somebody will send you just 18 c. in a letter, for 1000 bees, then what are you going to do! Send them by mail and pay postage? I guess it could be done, if they don't hatch out on the way, and die before they get there.

Mrs. Lizzie E. Cotton sends out a supplement to her 1884 circular; and I am sorry to say that it has its old bitterness toward almost all the other brethren and sisters in the bee business. So long as she persists in her extravagant prices for the things she sells, and her persistent declarations that bee-journals and supply-dealers in general are trying to injure her, we can not recommend anybody to patronize her. A great many papers have declined to receive her advertisements; but as she sends some sort of an equivalent for the money she receives, other papers think it right to insert them.

MARYLAND SECTION CO.



5¼ x 5¼ x 2
5¼ x 5¼ x 1⅞ } Per M $4.50
4¼ x 4¼ x 2
4¼ x 4¼ x 1⅞ } Per M $4.00
4¼ x 4¼ x 1⅝
4¼ x 4¼ x 1½ } Per M $3.50

If SELECTED, add 50 cts. per thousand.

Address **C. H. LAKE, Secty.**
P. O. Box 383, Baltimore, Md.

Send 5 cent stamp for samples. Discount of 50 cts per 1,000 on 10,000 lots all of one size

Position Wanted.

Salary or Share.

THREE YEARS' EXPERIENCE.

Best References.

SAMUEL A. MILLER,
9 28 Carteret St., WOODSIDE, NEWARK, N. J.

SPECIMEN BOOK FREE.

GEO. M. GRAY & CO.

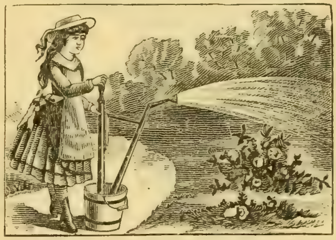
HONEY LABELS

ALL PRINTING *First Class.*

JOB PRINTING *Of all Kinds.*

MEDINA,
MEDINA CO., OHIO.

The $1.00 Fountain Pump
—OR—
SPRINKLER.



The above cut gives a pretty good idea of the Fountain Pump, that has occasioned such a brisk trade during the past six months. It is easily operated, and will throw a stronger stream, and throw it further, than the Whitman pump; but it can not well be carried in the hand with a pail of water, as we would carry the Whitman; neither is it as durable, as it is made of tin instead of brass. It has no hose attached. At present the manufacturer objects to our selling single pumps for less than $1.00, although we can sell three for $2.25; in lots of ten, the price is $6 00; 100, $55.00.

To parties living at a great distance they can be sent by mail for 60 cents. They will answer very well for sprinkling a colony of bees, if you can get near enough to them to set your pail down while you throw the spray. Each pump has three different nozzles—one for a spray, one for a small stream, and one for a large stream. We consider them a great acquisition. **A. I. ROOT, Medina, O.**

CONVENTION NOTICE.

The next meeting of the Keystone Bee-keepers' Association will be held in the rooms of the Y. M. C. A. in Scranton, May 13, 1884, at 10 o'clock. Interesting subjects will be discussed. All are invited to attend. GEO. H. COLVIN, Ass't Sec'y.

I WILL MAIL YOU

My 20-Page Price List

—OF—

Italian, Cyprian, and Holy-Land Bees,

Nuclei Colonies, Queens, and Apiarian Supplies, by sending me your address on a postal.
9d H. H. BROWN, Light Street, Col. Co., Pa.

OUR OFFER

in GLEANINGS of April 15, to send a sample thousand of our sliced sections for $4.00 will extend only till the 10th of May. We are making

FIRST-CLASS SECTIONS,

and can not afford to sell them at third-class prices. $4.50 per 1000 is the regular price for the 4¼x4¼x1⅞. Send for circular and prices. BERLIN FRUIT-BOX CO., Berlin Heights, Ohio. 9d.

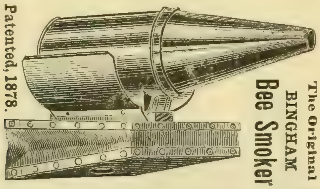
GREETING.

To my many old customers and the public: I am glad to announce that I am again to the front in the manufacture and sale of all desirable kinds of comb foundation. Wholesale and retail prices on application.
J. H. NELLIS,
9d Canajoharie, N. Y.

ENGINES!

All sizes, and cheap. Descriptive circular free.
O. H. TOWNSEND, Agent,
8-9d. Alamo, Kalamazoo Co., Mich.

Dadant's Foundation Factory, *wholesale and retail.* See advertisement in another column.



Borodino, N. Y., Aug. 15, 1882.

CYPRIANS CONQUERED.—All summer long it has been "which and t'other" with me and the Cyprian colony of bees I have — but at last I am "boss." Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. Respectfully,
G. M. DOOLITTLE.

Mess. Bingham & Hetherington:—

DEAR SIR.—I received those Smokers in good order, and am much pleased with them, and the improvements, over the old ones. They can not fail to please your customers. Thanks for promptness.
Yours truly,— J. M. HIBBARD.
Athens, Ohio, April 21, 1884.

PRICES:

By mail, postpaid.

Doctor Smoker (wide shield)............	3½	inch,	$2 00
Conqueror Smoker (wide shield)......	3	"	1 75
Large Smoker (wide shield)............	2½	"	1 50
Extra Smoker (wide shield)............	2	"	1 25
Plain Smoker.............................	2	"	1 00
Little Wonder Smoker..................	1¾	"	65
Bingham & Hethering'n Honey-Knife	2	"	1 15

To sell again, apply for dozen or half-dozen rates.

Address T. F. BINGHAM, P. M., or
BINGHAM & HETHERINGTON,
9tfdb. **ABRONIA, MICH.**

ITALIAN AND CYPRIAN BEES and QUEENS, by the colony, nucleus, and pound. Address
8tfdb OTTO KLEINOW, Detroit (Opp. Fort Wayne), Mich.

ITALIAN QUEENS

Bred From Select Mothers, and Mated with Choice Drones.

This last point a specialty. No bees by the pound, no nuclei; no full colonies for sale. Caged queens by mail at rates given in A. I. Root's price list.
Address. **Dr. J. A. GUNN,**
9-14db **Casky, Christian Co., Ky.**

JAMES B. MASON,

MECHANIC FALLS, ME.,

would be pleased so send his illustrated catalogue of Apiarian Supplies, consisting of every thing needed by the practical bee-keeper, to all interested in bees. Choice breed, pure Italian bees, and full colonies, a specialty. Comb Foundation of a superior quality. Send for sample. 9tfdb

ROSES.

A Large Stock of the Leading Varieties at Low Rates.

YOUNG ROSES

AS WELL AS 1-YEAR-OLD PLANTS.

Catalogues and Prices on application.

F. HAHMAN,

Harrowgate Lane, Philadelphia, Pa.

DID YOUR BEES DIE?

Stock up your combs, before they are spoiled, with bees by the pound. I can ship them safely. Two-pound colonies with a choice tested queen, $4.75, or bees in any shape cheap.

DID THEY WINTER? *Make 'em pay.* Make your own foundation. Machines on hand ready to ship at $3.75. See my circular. Discounts on large orders.
OLIVER FOSTER,
9tfdb MT. VERNON, LINN CO., IOWA.

1884. 1884.

ITALIAN QUEENS.

Untested Queens a Specialty!

Pure Italian Bees and Queens in their highest type of purity and excellence. Bred from the eggs in full colonies. One hundred per cent of our untested queens are purely mated. Queens will be ready to ship April 1st. No new races of bees in my apiary, nor will be. Send for circular. Untested queens, $1.00 each; $11.00 per dozen; 3-frame nuclei, $4.00 each with untested queen.
T. S. HALL,
9d **Kirby's Creek, Jackson Co., Ala.**

ITALIAN BEES. Full colonies with *imported* or home-bred queens, nuclei, or by the pound, *cheap.* Also 200 wide frames with tin separators. Hives, Smokers, Crates, etc. E. A. GASTMAN, Decatur, Macon Co., Ill. 9d

BEES 100 COLONIES, also IMPORTED TESTED AND DOLLAR QUEENS.
Bees by the lb., etc., for sale. Write for prices.
9d F. L. WRIGHT, PLAINFIELD, MICH.

ITALIAN QUEENS AND BEES!

Tested queens, in May, $3.00; June, $2.50; after June, $2.00. Warranted queens, in May, $1.25; June, $1.10; after June, $1.00. I give special attention in breeding my queens to have them perfect. Be sure to send for circular giving price of bees. Satisfaction guaranteed. CHAS. D. DUVALL,
7tfd. Spencerville, Montgomery Co., Md.

ITALIAN BEES & QUEENS FOR SALE

Tested queens, May, $3.00; June, $2.50; after July 1st, $2.00 each. Untested, after June, $1.00 each; six for $5.40.

Full swarms in 8-frame Langstroth hives, in May, $7.00; two for $13; ten for $60. After June 1st, $1.00 per swarm less. Satisfaction guaranteed.
I. S. CROWFOOT,
7-9d. Hartford, Washington Co., Wis.

ONE-PIECE SECTIONS A SPECIALTY!

Sample lots of 100 sections, 50 cents. See adv. in GLEANINGS of Feb. 15. B. WALKER & CO.,
7-15d. Capac, Mich.

STEAM BEE-HIVE FACTORY

OF THE WEST.

Hives and sections of all kinds. Italian bees, colony or nuclei; comb foundation, smokers, extractors. Best and cheapest saw mandrel made; Babbitt boxes all complete, 20 inches long, $6.00. All supplies very low for cash. E. Y. PERKINS,
3-5-7-9-11-13d Jefferson, Greene Co., Iowa.

HEDDON'S CIRCULAR

Can be had by sending your address to

JAMES HEDDON, Dowagiac, Mich.

☞State if you had his for 1883. 3t bfd

Bees For Sale!

15 STANDS ITALIAN BEES,

All are VERY strong (having been 2 and 3 story hives last summer), plenty of good honey, to last till June; will guarantee safe arrival and healthy condition. Simplicity or VanDeusen-Nellis hive; wired frames, 1½-story hives. Price $6.50, f. o. b. cars here.

Address,—
3-5-7-9d *L. A. PORTER, Poplar Bluff, Mo.*

A Full Line of Apiary Supplies.

Headquarters for the West. Send for price list. Cash paid for beeswax. HOWE & SON,
1-11d No. 303 Broadway, Council Bluffs, Iowa.

SEND

For Our Fine Descriptive Price List of

CHAFF & SIMPLICITY BEE-HIVES,

—AND—

Apiarian Supplies in General.

Good work, good material, low prices, and *satisfied customers*. Try us.
S. C. & J. P. WATTS,
9tfd **Murray, Clearfield Co., Pa.**

---

100 STOCKS OF BEES FOR SALE (Hybrids)

in Adair frames, 10x13, inside measure; 7 frames to hive; $4 00 each; one-half cash with order; balance on receipt of goods. **D. McKENZIE,**
9d Carrollton Station, New Orleans, La.

CHEAP! - CHEAP!

FULL COLONIES, NUCLEI, and QUEENS.

SEND FOR PRICE LIST TO

DAN WHITE, NEW LONDON, HURON CO., O.

7tfdb

COMB FOUNDATION.

Having purchased a large stock of choice yellow wax, we shall make a specialty of this branch of our business this season. We also offer general apiarian supplies. Also a choice lot of Italian and Albino bees, bred from our new strains, which gave such good satisfaction the past season.

Send for our price list, and state where you saw this. WM. W. CARY & SON,
4btfd Coleraine, Franklin Co., Mass.

HOLY-LAND & ITALIAN QUEENS.

I shall this season be better prepared to furnish superior queens promptly than ever. Please order early. Satisfaction and safe arrival guaranteed. Tested queens of either race, before June 1, $3.00; in June, $2.50; after July 1, $2.00. Untested, before June 1, $1.25 each; six or more, $1.00 each; after June 1, single queen, $1.00; six, $5.50; twelve, $10.00.

I will send Cook's Manual of the Apiary, cloth, for 90 cts., to purchaser of queens.
5tfdb **I. R. GOOD, Sparta, White Co., Tenn.**

BEE-HIVES,

CHEAP! CHEAP!

Simplicity and Heddon hives and cases. The last named, a *specialty*. One-piece sections, foundation, smokers, etc. Send for price list.
J. J. HURLBERT,
3-5-7-9-11-13d **Lyndon, Whiteside Co., Ills.**

Pure Italian Bees and Queens!

SEND FOR PRICE LIST.

A. B. MILLER, WAKARUSA, ELKHART CO., IND.
5-7-9d

ALBINO & ITALIAN QUEENS

Those desiring to secure *pure* Albino queens will best accomplish their object by purchasing of the original producer of this valuable and beautiful race of bees. For circulars, address D. A. PIKE,
5-7-9inqd Smithsburg, Wash. Co., Md.

FLAT-BOTTOM COMB FOUNDATION.—High side-walls, 4 to 14 square feet to the lb. Circular and samples free. J. VAN DEUSEN & SONS,
Sole Manufacturers,
4tfd Sprout Brook, Mont. Co., N. Y.

REVERSIBLE-FRAME HIVES,

—AND—

WHITE BASSWOOD SECTIONS.

SEND FOR CIRCULAR AND PRICES.
5-7-9d O. J. HETHERINGTON, East Saginaw, Mich.

1884. FOURTEENTH YEAR. 1884.

Queens---Italians & Syrians.

Single tested queen, of either variety, - -	$2.50
Single untested queen, " " - -	1.25

For choice extra selected queen, 50 cents additional. After June 1st, tested queens, $2.00, and untested (laying queens) $1.00. Sent by mail, and safe arrival guaranteed. W. P. HENDERSON,
7-17d. Murfreesboro, Tennessee.

BE SURE

To send a postal card for our illustrated catalogue of

APIARIAN SUPPLIES,

Before purchasing elsewhere. It contains illustrations and descriptions of every thing new and desirable in an apiary,

AT THE LOWEST PRICE.

Italian Queens and Bees.

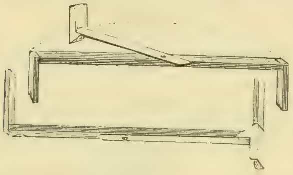
J. C. SAYLES,
HARTFORD, WASHINGTON CO., WIS.
1-3-5-7-9-11d

COMB FOUNDATION.

Wax worked by the lb. on shares, or for sale, on the Given Press; size of dies 9x16 inches. Italian bees a specialty. A few black and hybrid colonies for sale. Send a card for prices; 200 bushels onion-sets; 2000 asparagus roots; strawberry and raspberry roots; W. Russian oats, and Champion potatoes. Send for descriptive price list. Lose no time, but send your orders early.
5-7-9d A. J. NORRIS, Cedar Falls, Ia.

HOWES'

Reversible Frame Support.



Send address for circular to C. J. F. HOWES, Adrian, Mich., or E. T. LEWIS & CO., Toledo, O., manufacturers of all kinds of Apiarian Supplies. 8tfdb

ONE-PIECE SECTIONS $5 PER M.

LANGSTROTH, SIMPLICITY, AND CHAFF HIVES, COMB FOUNDATION, SMOKERS,
AND A FULL LINE OF

APIARIAN SUPPLIES.

DERR & KREIDER, STERLING, WHITESIDE CO., ILL.
7-12b

BeeswaX

CRUDE OR REFINED, ALWAYS ON HAND, AND ORDERS PROMPTLY ATTENDED TO.

RICHARD MERKLE,
Wax Bleacher and Refiner, No. 700 North 2nd Street,
ST. LOUIS, MO. 8-9d

I. X. L. EXTRACTORS

$7.00 to $10.00. Cold Blast Smokers (mail free), $1.00. Plymouth Rock Eggs, per sitting, $1.50. Circular free. W. C. R. KEMP, Orleans, Ind. 9-10

EARLY BEES!

BEES of all kinds at prices to suit purchasers, at all seasons of the year.

After July 1st, almost given away.

A. W. CHENEY,
5tfdb Kanawha Falls, W. Va.

200 COLONIES OF

ITALIAN BEES FOR SALE.

TRY OUR IMPROVED ITALIANS.

Send for Price List. Address

Dr. C. W. Young, or C. F. Lane,
12-1-3-4-5d **LEXINGTON, MO.**

BEE-KEEPERS' SUPPLIES.

It will pay to get our prices before purchasing supplies; good Langstroth hives, with 8-inch cap frames, in the flat. 60 cts. each; Langstroth winter-protector, in lots of 50, $1.50 each; small lots, $1.75, all in the flat. Manufactured of good pine lumber. Workmanship unexcelled. Crates, sections, and foundation. **WM. O. BURK,** 8tfd
Successor to Hiram Roop. Crystal, Mont. Co., Mich.

Nuclei! Nuclei!

Bright Italians, gentle and beautiful. Will send any number of frames desired in nucleus. Try my half-colonies. Better than a new swarm. Terms reasonable. Send for circular, and don't forget it.
DR. A. P. COULTER.
5-7-9-12d. Lock Box 231, Marissa, St. Clair Co., Ill.

DOVETAILED ONE-PIECE SECTIONS, $4.50 per 1000. Other goods proportionately low. E. S. MILLER & BRO., Dryden, Lapeer Co., Mich. 5-7-9d

CYPRIANS and SYRIANS direct from their native lands. Fine queens before June 1st, $10; extra fine, $12; during June, $9; extra fine, $10. **Carniolans imported from Carniola, and Italians from Italy.** Fine queens before June 1st, $6; extra fine, $7; during June, $5; extra fine, $6. Any six queens, 5% off; ten, 10% off. Safe arrival. Expressage prepaid to N. Y. Send U. S. bills in registered letter to
3-5-7-9d FRANK BENTON, Georgen St., 8, Munich, Germany.

PERRY'S PRICE LIST

Of Improved Italian BEES and QUEENS.

	May.	June	July-Oct.
Tested queens	$2 50	$2 00	$1 65
Untested queens		1 00	90
Hybrid queens	1 00	50	40
Bees per pound	2 00	1 20	90
Bees in the brood, per 1000	45	25	18

Send for circular. S. C. PERRY,
8-9-11-tfd Portland, Ionia Co., Mich.

BEES AT A BARGAIN.

I have 18 stands of bees, which I offer at $6 a stand. They have wintered well. Address
MRS. SALLIE S. ADAIR,
8-11bd Shawhan, Bourbon Co., Ky.

ITALIAN BEES by the pound, 75c; 10% discount for over 20 lbs. Full colonies on 9 frames in single Simplicity, strong with bees and brood, and untested queen from pure mother, $5.00; 3-frame nuclei, S. frame, with q., $2 50. G. W. GATES,
9-10d Bartlett, Shelby Co., Tenn.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

QUEEN-BEES.

Tested Italians, for sale now, $3 00; Dollar queens next month, $1.25. Imported mothers.
9d S. G. WOOD, BIRMINGHAM, ALA.

SEND FOR OUR PRICE LIST OF

APIARIAN SUPPLIES,

before purchasing elsewhere. Every thing needed in the apiary, at the lowest prices.
8-9d BUTLER & LUTHER, Poynette, Wis.

WOOD SEPARATORS.

Made of straight-grained whitewood. They do not curl nor warp; $2.50 to $4.00 per thousand, according to size and thickness. Send for price list of Sections, Separators, and Berry-Packages.

Address
BERLIN FRUIT-BOX CO.,
9d BERLIN HIGHTS, ERIE CO., O.

Excelsior Poultry Yards

WEST MONTEREY, CLARION CO., PA.

Illustrated circular of Fine Thoroughbred Poultry, Bees, etc., sent free. Eggs, $1.50 per 13; $2.50 per 26.
9-13d J. T. FLETCHER.

BEES BY THE BUCKET.

Four pounds of hybrids and 1 queen for $3.00, put up in a water-bucket. Any one wanting such can address me.
HENRY WRIGHT,
9d Selma, Dallas Co., Ala.

NUCLEUS COLONY with Italian queen after July 4th, with 3 L. frames, $3.00; or 2 L. frames, $2.50. Italian queens $1.00.
J. L. HYDE, Pomfret Landing, Conn. 8-12d

WE CALL the attention of all wanting A No. 1 bees, Italian, Hybrid, or Cyprian, to the following, from one well known to the readers of this paper:

"I have never seen a case of foul brood; my bees are entirely healthy, and have always been so, and are O. K. in every respect. GEO. B. PETERS, M.D."

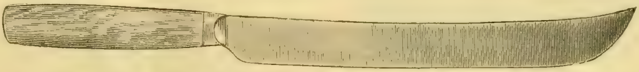
We can furnish any number of the above bees, and will warrant satisfaction and safe delivery. N. B.—No bees sold from any apiary that has ever had a case of foul brood in it. Write for particulars and prices to
FLANAGAN & ILLINSKI,
9-14db Lock box 995, Belleville, St. Clair Co., Ill.

PURE ITALIAN QUEENS,

warranted purely mated, May, $1.50; June, $1.25; July till October, $1.00. Dovetailed and one-piece sections, white basswood, 4¼x4¼ to 5¼x6¼. Foundation, heavy and light. Hives, all patterns. Langstroth always on hand. Best smokers, all sizes. Honey-knives, extractors, Gray's outside and Locke's inside feeders. Drone traps and excluders, all at bottom prices. Send stamp for price list.
9-12db A. FAHNESTOCK, LaPorte, Ind.

GREETING!

To my many old customers and the public: I am glad to announce that I am again to the front in the manufacture and sale of all desirable kinds of comb foundation. Wholesale and retail prices on application.
J. H. NELLIS,
9d Canajoharie, N. Y.



We have been showing you pocket-knives, but now call your attention to a *good* bread-knife. Blade is 8 inch, and the best steel made. Price, postpaid, 55c., $4 60 per dozen. 6-inch butcher-knife, *our best*; postpaid, 75c. Razor-steel kitchen-knife, 25c. Our 48-page list of knives, razors, and scissors mailed free to all.
9d **MAHER & GROSH, 74 N. Summit Street, Toledo, Ohio.**

STANLEY'S AUTOMATIC HONEY-EXTRACTOR

REVERSES THE COMBS BY REVERSING THE MOTION OF THE CRANK.

THE COMB - BASKETS ALWAYS STOP IN MOST CONVENIENT POSITION FOR PUTTING IN OR REMOVING COMBS.

Each Extractor has a Long Strong Crank, so that the Machine is Easily Operated, and a Brake to stop the Motion is so Arranged that it Can be Managed with the Left Hand.

THEY HAVE BEST VERTICAL GEAR, WITH TWO BEARINGS FOR CRANK - SHAFT.

All cans are made from XXXX tin; or if desired, we will make them from heavy galvanized iron at same price.

The cylinder of can is all in one piece. We make all our Extractors to take 2 or 4 combs, and they can be changed from one to the other in one minute. We make the Automatic to hold any size of frame. We challenge any extractor now before the public to do one-half the work of our 4-frame machine. Do not pay out money for inferior machines, but write us for terms, as our prices are reasonable.

We want a good *live agent* in every bee-keeping locality, and especially in *Cuba* or San Domingo, to whom we will pay a liberal commission. If you have not already received our circular giving full description, send your name on a postal at once to

G. W. STANLEY & BRO.,
WYOMING, NEW YORK.

ALBINO & ITALIAN QUEENS, BEES & SUPPLIES FOR 1884

HEADQUARTERS FOR THE ALBINO.

For beauty, for kindness, and for large yields of honey, the Albino bee ahead. Last season we increased one colony to 6, from which we took 500 lbs of comb honey, and all had abundant stores for wintering. We have a heavier stock of bees than ever before, and will be able to furnish queens in large numbers. We have also added to our buildings, and increased our facilities for Hives, Comb Foundation, and Apiarian Supplies generally. Send for Price List. Please write your address plainly.

We have traded for some hybrid and black bees, which have fine queens, which we will sell, hybrids at $1.00, blacks, 50 cents. Address

9-11d **S. VALENTINE & SON, Hagerstown, Washington Co., Md.**

1884. For Sale. 1884.

Pure Italian Queens and Bees

FIVE-FRAME (Langstroth Frame) COLONIES

A specialty. Five bright new combs, wired in, covered with young bees, filled with brood and stores with a pure young fertile Italian queen. My queens are carefully bred from best imported and homebred stock. Bees gentle, industrious, and beautiful; better than a natural swarm. I was awarded first premium at St. Louis Fair last fall over quite a number of worthy competitors for best Italian queens and bees. Send for circular and price list.

WILLIAM LITTLE,
5-7-9-11-13-15d **Marissa, St. Clair Co., Ills.**

SIMPLICITY B-HIVES,

with 10 frames and cover. 65 cents. The same in flat, 50 cts. Double-story Langstroth hive, with 20 frames, all complete, $1.00. 1-lb. sections, per 1000, $3.75.

T. A. GUNN,
5-7-9d. Tullahoma, Tenn.

FDN. MILLS. 10 INCH $15.00
W. C. PELHAM.
MAYSVILLE, KY.

Tested Queens a Specialty.

Have been handling Italian Bees for 24 years; so you see that when you get my $2.00 tested queens in May and June, you buy of one who knows the bee. Untested for the same months, from imported queen, $1 00.

EUGENE DIEFENDORF,
8-12db Moniteau, Moniteau Co., Mo.

SEND FOR OUR CIRCULAR!

We keep in stock a full line of bee-keepers' supplies, Simplicity and chaff hives, one-piece sections, crates and cases, extractors, smokers. Given foundation, and BEES AND QUEENS. Circular free.

7-12db REYNOLDS BROS., Williamsburg, Ind.

FOUNDATION

Recent valuable improvements in our machinery enable us to make bottom prices. Our foundation is unexcelled by any made in the United States. *Orders filled in rotation.* GENERAL SUPPLIES.

M. C. VON DORN,
7b.tfd. 820 S. Avenue, Omaha, Neb.

TESTED QUEENS, $2.00. Untested, $1.00. 4-frame nuclei, $3 50 and $4.50.

3tfd OSCAR F. BLEDSOE, Grenada, Miss.

NEVER BEFORE ATTEMPTED!

I have invented a *Queen Cage* by means of which I guarantee both safe arrival and *safe introduction* of all queens purchased of me, for only a small addition to regular price of queen. For full particulars send for my circular at once.

S. A. DYKE,
7-15d. Box 473, Pomeroy, Ohio.

Italian Queens $6 per Doz

Italian queens, raised from imported or pure American stock. Safe arrival warranted from June 15 to Oct. 15, for $1.00 each; at owner's risk, 75c each, or 7 for $5 00. With 25 days to fill orders, $6 00 per dozen the year round. All queens at owner's risk from Oct. 15 to June 15; $5.00 and over at my expense for registered letter or postoffice money order. Address

DR. JOHN M. PRICE,
7-5d. Tampa, Hillsboro Co., Florida.

WHY SEEK ANY FURTHER?

My strain of Italian bees is not surpassed for honey-gathering and beauty of form. Dollar queens a specialty.

A. COX,
5-7-9d. White Lick, Boone Co., Ind.

ALL DOVETAILED SECTIONS!

Langstroth and chaff hives, brood and wide frames, tiering-up cases, shipping-crates, honey-extractors, paper boxes for 1-lb. sections, wire nails, queens, and nuclei. Write for circular. WHEELER & ISBELL, Norwich, Chenango Co., N. Y. 579d.

EARLY AND GOOD!

TESTED AND UNTESTED QUEENS, raised from the best and purest stock. Price list on application. Send orders at once to

W. J. ELLISON,
6-7-9-11d **Stateburg, Sumter Co., S. C.**

I WANT TO SELL.

Being unable to keep, for want of room, my accumulation of Simplicity Hives, Frames, Sections, Chaff hives, and all such machinery; all new, but the man and experience. Price list free.

C. P. BISH,
9-17d Petrolia, Butler Co., Pa.

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa., E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON.
3btfd. Hamilton, Hancock Co., Ill.

ITALIAN QUEENS

Sent by return mail. My motto is, "A fair equivalent for every dollar received." Prices:

Untested queens from imported mother, April and May, $1.50; June and July, $1.25. April and May, per dozen, $15.00; June and July, per dozen, $12.00. I will send GLEANINGS one year, and a queen, for $2.00. Send money orders on Hillsboro.

7tfdb. H. A. GOODRICH, Massie, Hill Co., Texas.

J. W. ECKMAN,

RICHMOND, FORT BEND CO., TEXAS,

DEALER IN

PURE ITALIAN BEES AND QUEENS.

7tfdb *SEND FOR CIRCULAR.*

PURE ITALIAN QUEENS!

Bred in "Sweet City" Apiary. Bees by the lb., and nuclei of any size. Write for circular.

7-13d, G. W. DEMAREE, Christiansburg, Ky.

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KIND WORDS FROM OUR CUSTOMERS.

WHAT GIVING UP TOBACCO LEADS TO.

We have a Band of Hope (temperance) with nearly 300 names, in our town. I need not say I am a member, as you know I quit tobacco two years ago.

Your brother in Christ,— DAVID PRATT.

Clinton, La., April 14, 1884.

The Clark smokers went off like hot cakes, buckwheat cakes at that. They work like a charm, and I think are well worth what they cost, and are what you recommend them to be. Will the clerk please pass this into the purple basket, for it is a prompt basket? G. A. WILLS.

Enfield, White Co., Ill., April 14, 1884.

It affords me pleasure to say, that the package of apiary supplies and sundries, as also the extractor and trees ordered of you recently, came safely to hand *on time;* and after a critical examination of them in detail, I find every item correct as per invoice, and entirely satisfactory. In fact, Myrtle (our little six-year-old daughter) expressed the idea exactly when she emphatically remarked after the goods were opened, "Papa, I think Mr. Root certainly is a dear, good *bee-man*, don't you?

A KIND WORD FOR THE HOLY-LANDS.

To begin the season, I have to report 11 colonies of bees—Italians, Holy-Lands, and hybrids, in movable-frame hives. All brought safely through the winter so far, and are apparently doing very well. I should like to hear the Holy-Lands more generally criticised by those who have bred them. From my own experience with a single colony of them, I think them pre-eminently ahead of my Italians, blacks, or hybrids, giving me more honey *by far* than either, being *greatly* more prolific, and far less vicious and irritable. In fact, this last good quality seems to characterize them; for while I invariably have to subdue the bees with smoke, I frequently handle them with impunity without the use of it. Can it be that mine is a gentle "strain," or is it a lack of knowledge of their many good traits that seems to hold them in the background? My Holy-Lands and Italians (one colony of each) were both the progeny of imported queens procured of the same dealer; and judging these two colonies by every standard of excellence known to me, the Holy-Lands are immeasurably ahead. H. H. SPINDLE.

Verbena, Va., April 14, 1884.

[Friend S., give my best respects to my little six-year-old friend, and tell her I try to do as well by every one as I did by you; but in sadness I am obliged to reflect that there are a great many whose experience in dealing with Mr. Root has been different from your papa's.]

I. X. L. EXTRACTORS

$7.00 to $10.00. Cold-Blast smokers (mail free) $1.00. Plymouth-Rock Eggs, per sitting, $1.50. Circular free. W. C. R. KEMP, Orleans, Ind. 7-8-9-10d

THE COMING HIVE,

And every thing live Bee-men need. Send for price list to

KENNEDY & LEAHY,

10-tfdb. **Higginsville, Lafayette Co. Mo.**

FOR SALE!
Bees and Queens.

Full Colonies, $7.00; Tested Queens, $2.00; Untested, $1.00 after June 1st. Raised from Imported Mothers. Please order early.

AMOS BLANK,
10-tfdb. **Woodville, Sandusky Co., O.**

WHITEWOOD or Basswood Sliced Sections, 4¼x4¼, per 100, 30 cts.; $2.00 per 1000. Hives, Cases, and Fruit-Packages of all kinds. Best make, lowest prices. Send for circular. N. E. DOANE,
10 Pipestone, Berrien Co., Mich.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

GEO. W. BAKER,
LEWISVILLE, IND.,
IS STILL BREEDING
ITALIAN BEES & QUEENS.

Also dealer in Extractors, Smokers, Honey-knives, etc. Also breeder of 13 different varieties of land and water fowls. Eggs, $1.50 per sitting. Send stamp for Catalogue. 10-tfdb.

SECTIONS,
PRIZE BOXES, AND CRATES,

Made from Planed White Basswood, 4 pieces, Dovetailed or to nail. Send for sample and price, stating quantity wanted. New machinery and large experience enable us to give perfect satisfaction.

F. GRANGER & SON,
HARFORD MILLS, CORTLAND CO., N. Y.

Italian Bees.

100 colonies, on Langstroth Frames, delivered at my yard, one mile from depot, in lots of 20 or more at $5.00 per colony.

J. B. MITCHELL,
HAWKINSVILLE, - - GEORGIA.
10-11d.

BEES TO SELL.

40 full swarms left yet at $4.00 each; put up in light shipping-boxes, with combs of brood and honey.

M. W. HARRINGTON,
HOMESTEAD, IOWA CO., . . IOWA.

SEND FOR OUR CIRCULAR!

We keep in stock a full line of bee-keepers' supplies, Simplicity and Chaff Hives, one-piece Sections, Crates and Cases, Extractors, Smokers, Given Foundation, and BEES AND QUEENS. Circular free.
7-12db **REYNOLDS BROS., WILLIAMSBURG, IND.**

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I HAVE two black queens for sale, at 40 cts. each. Ready now, and safe arrival guaranteed.
A. L. LINDLEY, Jordan, Jay Co., Ind.

I CAN furnish 20 black queens at 40c each; also 20 hybrids; price 50c each.
CHAS. MILLER, Justus, Lack'a Co., Pa.

HONEY COLUMN.

CITY MARKETS.

DETROIT.—*Honey.*—The honey market is almost lifeless; 17 to 20c is asked for good cap honey, with but few buyers. A. B. WEED.
Beeswax is scarce at 30 to 35c.

CHICAGO.—*Honey.*—The season is well over for comb honey, and the stocks are really very low. Prices range from 12@16c, according to quality. Extracted honey finds a dull market at present at 7@8 cts. *Beeswax*, 30@38c. R. A. BURNETT,
May 10, 1884. 161 South Water St., Chicago, Ill.

CLEVELAND.—*Honey.*—The honey market continues unchanged; 1-lb. best white is in excellent demand at 18 cts.; but larger sizes are not in urgent demand, 2-lbs. selling at 17 cts., when there are no 1-lbs. Second quality continues very dull at 14@15c. Extracted not wanted at all in any shape. *Beeswax* scarce at 35c. A. C. KENDEL,
May 9, 1884. 115 Ontario St., Cleveland, O.

KANSAS CITY.—*Honey.*—Demand for choice comb is still good, and moving freely at 15@16c for 2-lb. sections. Market is bare of 1-lb. sections at present, with considerable inquiry for them. Extracted in fair demand, 8½@9c for white, and 7@8c for dark. Very little of the latter now in this market, and a few thousand pounds would meet with very ready sale. JEROME TWICHELL,
May 6, 1884. Honey Depot, 514 Walnut St., K. C.

ST. LOUIS.—*Honey.*—During the past week, brokers bought up all the extracted honey in barrels and half-barrels that was in shipping order. Choice would now bring 7½c in barrels, and 9@10c in cans. Not much comb honey is offered for sale, and very little demand. In good order, worth about 15c; white clover, 18c. *Beeswax.*—Not much arriving. Yellow, 35c. W. T. ANDERSON & CO.,
May 12, 1884. 104 N. Third St., St. Louis, Mo.

NEW YORK.—*Honey.*—Comb honey is in fair demand, but prices are ruling low. One-pound sections have been in good demand all season, and our market entirely sold out, but still well stocked with 2-lb. sections. We quote fancy white, 2-lb. sections, at 14@15c; good white, 2-lb. sections, 13@14c; fair white, 2-lb. sections, 12@13c. Extracted clover and basswood, 8@9c.
Beeswax is very scarce, and held at 37@39c.
THURBER, WHYLAND & CO.,
May 10, 1884. Reade and Hudson Sts., N. Y.

WE CALL the attention of all wanting A No. 1 bees, Italian, Hybrid, or Cyprian, to the following, from one well known to the readers of this paper:
"I have never seen a case of foul brood; my bees are entirely healthy, and have always been so, and are O. K. in every respect. GEO. B. PETERS, M. D."
We can furnish any number of the above bees, and will warrant satisfaction and safe delivery. N. B.—No bees sold from any apiary that has ever had a case of foul brood in it. Write for particulars and prices to FLANAGAN & ILLINSKI,
9-14db Lock box 995, Belleville, St. Clair Co., Ill.

ONE-PIECE SECTIONS $5 PER M.
LANGSTROTH, SIMPLICITY, AND CHAFF HIVES, COMB FOUNDATION, SMOKERS,
AND A FULL LINE OF
APIARIAN SUPPLIES.
DERR & KREIDER, STERLING, WHITESIDE CO., ILL.
7-12b

FOR planed 4¼x4¼x1⅞ SECTION BOXES made of white basswood, inquire of
10d A. R. BODGE, Dexter, Me.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

NOTES FROM THE BRIGHT-BAND APIARY.

I CAN now command 500 colonies in the queen business, if necessary. My intention is to produce queens not excelled by any. Price, untested, but laying, in May, $1.00 each; 90 cents each the rest of the summer. Tested queens, any time, $1.50. The above are from imported Italian queens; queens bred from Kingsley's improved bees, same price. Kingsley's improved bee is simply a cross between the Cyprian, Italian, and Holy-Land bees; and in reality they are ahead of any race, both for color and honey-gathering propensities. Sample live workers sent for 3 cents to pay postage.
All orders promptly attended to; safe arrival guaranteed; full directions sent with each queen.
Make money orders payable at Shreveport.
Address CHAS. KINGSLEY,
10tfdb Benton, Bossier Par., La.

The Bee-Keepers' Guide;
Or, MANUAL OF THE APIARY.
11,000 SOLD SINCE 1876.
12TH THOUSAND JUST OUT!
10TH THOUSAND SOLD IN JUST FOUR MONTHS!
2000 SOLD THE PAST YEAR.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
State Agricultural College, Lansing, Mich.

ITALIAN ∴✣∴ QUEENS
Sent by return mail. My motto is, "A fair equivalent for every dollar received." Prices:
Untested queens from imported mother, April and May, $1.50; June and July, $1.25; April and May, per dozen, $15.00; June and July, per dozen, $12.00. I will send GLEANINGS one year, and a queen, for $2.00; Send money orders on Hillsboro.
7tfdb H. A. GOODRICH, Massie, Hill Co., Texas.

BEST GIVEN
FOUNDATION
WHOLESALE AND RETAIL.
I now have on hand a freshly made lot of Given Comb Foundation, made from strictly pure domestic wax, thoroughly cleansed from all impurities; in addition, the pollen is all removed. Size of brood and surplus, 8¼x16¼, or Langstroth size. Also Dadant's best Brood Foundation of same size, and 11x11, or Am. size.
PRICES:
Brood Fdn. per lb. (either make) - - - 50c.
Surplus Fdn. per lb. - - - - - - - - - 60c.
For lots of over 100 lbs., write for special prices. No charge for boxing or delivery to cars. Send orders to
JAMES HEDDON,
DOWAGIAC, - - - MICH.

DID YOUR BEES DIE?
Stock up your combs before they are spoiled, with bees by the pound. I can ship them safely. Two-pound colonies with a choice tested queen, $4.75, or bees in any shape cheap.
DID THEY WINTER? *Make 'em pay.* Make your own foundation. Machines on hand ready to ship at $3.75. See my circular. Discounts on large orders. OLIVER FOSTER,
9tfdb Mt. Vernon, Linn Co., Iowa.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES, HONEY & HOME INTERESTS.

Vol. XII. **MAY 15, 1884.** **No. 10.**

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

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WHAT I DO WITH MY BEES AT THIS SEASON OF THE YEAR.

SOMETHING ABOUT SPREADING BROOD IN MAY AND JUNE.

HAVING seen lately that some think that my plan of building up colonies by spreading the brood is not a judicious one, and wishing in no way to mislead any, I am led to tell the readers of GLEANINGS just how I manage my bees at this season of the year. Some seem to suppose that they should go to work overhauling their bees and spreading the brood as soon as the bees can fly; but such is not the plan I adopt; for from experience I have found that the less there is done with the bees (except to ascertain that each colony has a queen and sufficient honey) previous to the time the leaves begin to put out on the trees, the better off the bees will be. If I had but four or five colonies, I could, by way of seeing what I could do, take them into a warm room every cold spell, as I once did to get them ahead as far as possible; but such a plan could not be carried out with an apiary of any size. Unless such a plan is adopted, the spreading of the brood before settled warm weather often proves worse than a failure, as advanced brood is often killed by these cold spells, which would soon add new life to the colony if they had remained undisturbed. Thus I defer trying to build up colonies more than they naturally will do themselves, until I am sure of warm weather.

With this purpose I will now tell just what I do. As soon as spring opens I go to each hive with smoke in hand, remove the cap, roll back the quilt a little, and smoke the bees so they will run out of the way. If plenty of sealed honey is in sight along the top-bars of the frames, I let the quilt go back; and after putting on the cap, place a small flat stone on the center of the top of it. This stone tells me this hive has plenty of honey to last till the bees begin to carry in pollen. The next hive is looked at in the same way; and if I see plenty of honey it is marked the same. If I do not so see honey, I lift the frames to see how much honey they have. If they do not have 5 lbs. at the least, I place two flat stones on the right-hand back corner of the cap, which says such colonies are to be fed soon. If any are found entirely out, they are fed at once by giving frames of sealed honey, or combs filled with sugar syrup, if I have not the frames of honey on hand. These combs of honey or syrup are set on the outside of the brood at this season of the year, and not between the combs of brood as I do later in the season. Having set in the feed, the hive is marked with a stone, the same as was the first.

I wish to call attention to these stones for marking hives. In the first place they can be obtained in nearly all localities. If not, pieces of brick or tile can be used.

2. And most important, I can tell the condition of each hive just as far as I can see these stones, which is from one side of the apiary to the other.

3. They tell me what needs doing in the apiary, at a glance, with no time being consumed writing in a book, on a slate, or any such thing.

4. If any one enters the apiary and touches the hives when I am not there I know it, for they will always either let the stones slide off the covers, or

put them in a place where they tell nothing according to stone vocabulary, thus enabling me to tell if thieves or inquisitive people have visited my yard at any time.

To return: Seeing that all have honey, the apiary is left undisturbed till the first pollen is brought. At this time I look over each hive to see if all have laying queens, and honey. If any are found without a queen, a weak colony having a queen is united with the queenless one, and those short of honey are supplied as before, when they are again left till the trees begin to put forth their leaves. We can now safely calculate on settled warm weather, and the season's work can be advanced more now by an hour's labor than several days' work would accomplish previous to this. At this time I carefully go over each colony, noting its strength; and all colonies that have four frames or upward, having brood in them, are incited to greater brood-rearing by having their frames of brood reversed, by placing the two frames having the most brood in them on the outside, and those having the least, in the center. This does not spread the brood properly, but causes the queen to fill the outside combs of brood, which are now in the center, with eggs more fully than were the center ones before, thus giving frames compact with brood, instead of small batches of brood in many frames, thereby economizing the heat of the cluster of bees. Those not having four frames having brood in them are shut on to what frames of brood they do have, together with a frame of honey, by means of a division-board. The amount of honey is also noted, the prolificness of the queen, etc., and the stones are used in various positions on the cap, to tell the condition of each, inside, and also what should next be done. In a week I again go over those having their brood reversed, this time putting a frame of honey or a comb of syrup in the center of the brood-nest. As the bees remove this honey or syrup, the queen is fed and the comb quickly filled with eggs from top to bottom. I forgot to say, if sealed honey is used the cells are broken by passing a knife flatwise over them. It will be seen that thus far the combs of pollen next the brood hold the same position to the brood that they have heretofore, and they are not disturbed till all the other frames are filled with brood, when they are placed in the center to have the pollen exchanged for brood by the bees. Thus each week the brood is reversed, or frames of honey placed in the center till all is filled with brood. By this time the stronger of the weak colonies (those I shut up with the division-board) have then three or four combs filled with brood from bottom to top, when they are quickly built up by giving frames of hatching brood taken from those already having a hive full. Thus all are made strong for the harvest. This, in short, is my mode of management previous to swarming or the busy season.

Borodino, N. Y., May, 1884. G. M. DOOLITTLE.

Friend D., we have often used stones on top of the hives to indicate something, much as you do, but I never before thought of having the position of the stone have also a special meaning. This may be an interesting item to many of us.—In regard to spreading brood, with the number of frosts we have here in April, and even into May sometimes, I have about settled down to the idea that spreading the brood-nest, and putting a single clean worker comb in at a time was about enough. If the hive is pretty full of bees, they will crowd over on to this comb so as to cover it pretty well the first day. One great advantage of this is, that the queen can go to work and fill this comb with eggs that will hatch out almost at the same time. This gives the bees an opportunity of caring for the brood with less running about than they would have to do otherwise.

FROM 16 TO 51, AND 3600 LBS. HONEY.

The Way Friend Balch Did It.

SEE REPORT ON PAGE 23, JAN. NO.

"YES, pa, you will have to write an article so long;" and he stretched out his arms nearly full length, as he read the postal asking me to tell how I got that wonderful yield of honey and increase.

"Yes," I exclaimed, "I am very sorry indeed that I gave that report; and more so, to think I promised to tell how it was obtained, as it will not be of much account to the experienced; and I *fear* the beginner will get into trouble if he feeds outdoors as I do, especially if he has blacks or some of the new races of bees." Now I will try to confine myself to the text, and in as few and simple words as I can, convey my thoughts. You must not ask me what kind of hive I use, neither what kind of bees; and above all, do not ask me to send you a queen, as I do not rear any for sale; past experience has proven to *me* I can not rear a *good* queen for $1.00; if ever I do, I will advertise.

As I said in my report, I was badly reduced last spring, having only 16 colonies in all; 6 were *strong* —too strong to ship in safety, and the other 10 too weak to think of selling at all. Here comes the first *throb* that aroused me. Wife says, "I am so glad you have no more bees this spring to care for, with all your work and poor health;" then the neighbors would come along with *such* a grin! It *did* look lonesome when I took the last lot of bees to the depot.

I wrote immediately to a friend to send me some bees and queens, if he had them to spare. He sent me 5 pounds of bees, and I bought six queens to use before I could raise my own.

Right here let me tell you how many frames of comb I had on hand to start with. I had about 200 drone combs, 250 worker combs; these worker combs I used in building up nuclei, and for increase; the drone combs in upper stories for extracting.

Now for the *modus operandi*. Scrape out all the dead bees. I use no division-boards nor dummies in my hives; then close the entrance to the hives according to the strength of the colony; not with loose blocks, but with twisted paper, rags, or any thing that will make a cork. Remember, my bottom-boards are nailed fast to the hives. The weakest swarm's entrance should be just large enough for one bee to pass at a time, the entrance to the strongest, three inches by one-half inch. Next cover all the hives with strong paper, if you have not enameled cloth; over that put your sacking, quilts, or whatever you choose, and place on some kind of a weight to make it just as tight as you can. The weakest, I stop in every night; and if it is *cold*, leave them stopped up until it is warm enough for them to fly, even if it is for a week. Count the spaces filled with bees between the combs, and mark it on the hive; this enables you to tell a friend just the strength of a colony without opening the hive. Do not open except when it is actually necessary; then close as soon as possible.

Next comes feed, to stimulate brood-rearing. About four rods north of the apiary is a small creek that has cut into the soft earth some eight feet deep, just opposite the apiary. Now *remember*, the bank that faces the south is almost perpendicular; here is where I do my outdoor feeding, when it is warm enough for the bees to fly. It is several degrees warmer here than on the level above, and consequently the bees start home warm with a *warm* load of feed. I fed about 250 pounds of old candied honey in the combs last spring in this place. If the combs of honey are put in the proper position it would warm up as soon as the bees would fly. I kept a box right beside the honey, with wheat flour in it, with some bran and fine straw on top to keep the bees from getting daubed. If the day gets too warm, shade the combs, or else the bees will carry the honey too fast. When it begins to get cool, drive them all out of the hives of feed and close them up for the day. This saves many bees that would get chilled and never return. Do not uncap the honey, for they will carry it too fast. When you run out of honey go to a hive that has plenty, and exchange an empty comb for a frame of honey. Water being close at hand, there is no necessity of supplying that. When bees begin to rear brood they require much water. When it is too cool for them to fly I sweeten some water quite sweet, and warm it up to about 120°. It will get cool fast enough. Raise up the quilt at the back end of the hive, and pour the water on to some of the bees. Have the front end of the hive a little the higher, so it will run back. You need not put water into the hive more than once in two or three days. You must use judgment about the amount to use; that will be according to the size of the colony, and how much brood they have in the larval state. Be sure to feed until honey comes from the flowers; and then if any thing should cut off the supply, *feed*. When the flowers secrete but little honey, and the colony is strong and short of honey, exchange an empty frame of comb with a colony that has plenty of honey, placing the frame of honey in the center of the brood-nest; if the hive from whence the frame of honey came is strong, place the frame of empty comb in the center of the brood-nest also; this requires judgment, or you may do a positive injury by chilling the brood.

I increase, as far as possible, by artificial swarming; that is, when a colony gets strong enough to spare a frame of brood, I draw it out and either give it to a weak colony, or take several other frames of brood from other colonies and form a new colony.

It is needless to use valuable space to go over the ground of queen-rearing, dividing, and equalizing, as I gave it last spring, and you should have remembered it until now. Clover yielded only enough to keep up brood-rearing before basswood came; when basswood came I found I had 20 colonies strong enough to box. These I put on sections and ran for comb honey. The next 20 were not so strong. These I gave an upper story supplied with empty combs, and ran for extracted honey. Then there were a few too weak to think of getting any surplus. Now and then I drew a frame of brood; these I took as often as they would have them to form nuclei, which I strengthened into good colonies, getting frames of brood from any hive that could spare them. In this way I keep all hands at work. One of my neighbors has been watching me for the past two years, as he thinks of going into the bee business. He came over about the time I got off my surplus, and took a survey of the bee-yard, then asked me if I got much surplus. I took him into the honey-room and showed him. Says he, "There is not a man in the world you can make believe this, unless he has been with you and seen for himself from spring until now." WM. H. BALCH.

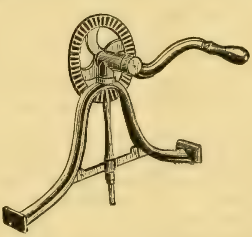
Oran, N. Y.

Friend B., your plan of having a feeding-ground protected from the winds, and exposed to the full rays of the sun, is an old idea, and is a very good one too, I believe, if you are careful to avoid inducing bees, by feeding, to come out in unseasonable weather. No doubt great things might be accomplished by pushing our colonies so as to get them powerful before the honey-crop comes. Your honey-yield comes late in the season, and this gives you a chance to get your bees built up strong in time to be ready for it.—It seems to me as though that "grin" of the neighbors was a pretty good thing in your case, was it not, friend B.? And this only verifies the little text, that "all things shall work together for good to those who love the Lord."

UPRIGHT EXTRACTOR-GEARING.

AN IMPROVEMENT IN THE CONSTRUCTION OF THE GEARING.

WHILE it seems to me by far the most convenient form of gearing is that which we have for years used on our extractors, which may be, for the sake of distinction, called horizontal gearing, there is still quite a number of the friends who insist on having the gearing stand upright so as to turn like a grindstone, as shown in the cut below.

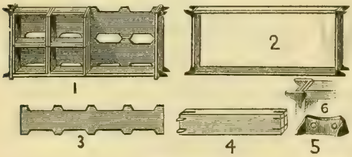


The gearing generally used for this purpose is that designed for churns, if I am correct, and a piece of wood has to be put across the extractor to hold it. The above we have had modified, so as to attach directly to the sides of the can, making it all metal, strong and light. The lower part of the upright shaft is made square, and goes into a square casting securely soldered into the upper part of the revolving basket. Extractors made with this sort of gearing will be 50 cts. more than our ordinary style; and where parties want just the gearing, as shown in the cut, for making their own extractors, the price will be $1.25 each, or $10.00 for ten. It seems to me the upright gearing is unwieldy and unhandy. It is also awkward and unwieldy to ship, compared with the compact and simple horizontal gearing.

O. J. HETHERINGTON'S REVERSIBLE-FRAME BEE-HIVE.

THE MOST FEASIBLE REVERSIBLE FRAME NOW BEFORE US, AS IT SEEMS TO ME.

IN order to explain the arrangement of this new feature I shall have to ask our readers to imagine an ordinary Simplicity hive standing before them. Now, friends, you know that the great bulk of frames in common use are what are called suspended frames—that is, they are hung by the prolongation of the top-bar of the frame at each end. When I first made our metal corners for frames, I thought of having the rabbet at the bottom of the hive, and using the frame upside down. This would necessitate some sort of spacers to keep the tops of the frames at the proper distances from each other. We should also have to have the projecting arms of the metal corners short enough to go into the hive, for I hardly need tell you that the space between the ends of the frames and the end of the hive should not exceed ⅜ of an inch; therefore these projections of the metal corners can not well be more than ¼ inch in length. The figures below show you how friend Hetherington manages it:



O. J. HETHERINGTON'S REVERSIBLE QUINBY FRAME, ETC.

2. Brood-frame, with metal corners attached to each corner.
5. Metal corners detached from the frame, showing nail-holes.
6. Metal corner in place, inserted in a saw-cut in the end-bar.
1. Metal corners attached to a wide frame, showing how it can be used without any top-bar.
4. End-bar of the wide frame, showing cuts necessary to take in metal corner.

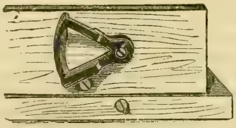
In order to understand this hive we will suppose the Simplicity hive, before mentioned, has a strong rabbet of Russia iron at the lower edge of the end-board inside. This rabbet is simply a strip of Russia iron about ⅞ wide, bent into a V-shaped trough. The longer edge is driven into a saw-cut, made diagonally in the lower inside corner of the end-board. When nailed securely it leaves a projecting edge of the iron ⅜ inch wide, reaching into the hive, and upward, so as to just catch the arms to this corner. The frames sit in loosely, and go down until the arms strike this strip of metal. The upper corners have the same arms, as you see, to keep them away from the ends of the hive, and little points in the casting project outward and touch each other so as to space the frames from each other at both top and bottom. These metal corners (figure 5) are a fraction less than 1¼ inches from extreme to extreme. When ten frames are placed in a hive, there is a little play, as it were, which allows of a slight lateral movement. The stuff used for making the frames, figure 2, is 1¼ inches by 5-16, all around. The end-bars are nailed through into the top-bars with long slender nails passing through the holes in figure 5. The saw-cut in the end of the end-bar as seen at figure 6 lets in the metal corner.

Now, I hardly need tell you that, with this arrangement, there is some difficulty in getting out the first frame when we wish to open the hive. To help us in this part of it, each story of the Simplicity hive has the upper half of one side made side opening. I may say here, that I do not like this side-opening arrangement; but I do not see how we could well get along without it. If even a part of the side to any hive is made to open, it very much impairs the strength and rigidity of the hive. The end-boards are at liberty to warp to some extent, thus pinching the frames, or giving them too much play. You will notice, that with this frame we have got to have hives pretty accurate, or the frames will pinch endwise, or go to the other extreme and slip from the rabbets. In fact, some of the frames pinch in the sample hive at hand, although this certainly ought to be remedied by accurate machinery.

Figure 1 shows the wide frame made on the same plan. However, as the ends and tops are close fitting, the lower corner has to be let in the middle of the end-bars. The figure will make this all plain, I think. You notice that friend H. dispenses with a top-bar entirely, which is certainly a desirable feature. He is enabled to do this by using separators, as in figure 3. These separators are about ⅛ inch thick, made of sawed and planed *pine*, and are strong enough to hold the frame without the top-bars. This arrangement is quite ingenious, and pleases me very much indeed.

The question may be asked, "Why not make our hanging wide frames in the same manner?" The difficulty is in getting a strong support for these supporting arms, without any top-bar. You will remember we illustrated the plan for doing this by means of hoop iron a year ago or more.

A word more in regard to the movable side. This is held in place by what is called the Vandeusen clamps, a cut of which we give here.



I find the price of these clamps given in Nellis' catalogue is $2.00 per 100.*

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*In the cut, the clamp is shown as it is used in fastening a bottom-board to a hive; and I may add, that friend Hetherington uses these clamps not only to hold in the movable side, but to hold the hive to the bottom-board, the cover to the hives, or a story to the one under it. Four clamps are used on each story, and two on each cover. In localities where high winds take off the covers, these are perhaps the simplest fastening that can be used. In our apiary, however, we have thought the time occupied in using them more than overbalanced the inconvenience of being obliged to go out after a storm and replace a few covers.

Do you want to know whether I would advise you to adopt this hive? I can only say it looks the most promising of any thing I have yet seen in place of the L. suspended frame, and I have thought enough of it to decide to transfer combs into some of the frames and try the hive in our apiary. You will observe that it accomplishes the matter of reversing frame, completely. Any brood-frame will go just as well one side up as the other. The wide frames can not be used either side up without putting in a top-bar.

In reply to a letter as to how long he had used the hive I have described, friend Hetherington replies as follows:

I have used the hive in its present form for four or five years. The hive I had been using was a closed-end Quinby, with a large case, modified a little from that used by L. C. Root and Capt. Hetherington, in that I had a reversible frame; am using it largely now. The only objection I have to it is, that when I want to sell any bees it is too expensive, and requires two men to handle it, so I got up this hive; and the more I use it the better I like it. When I wrote you I forgot to answer your question—that it is not the hive used by Capt. Hetherington and L. C. Root. The irons on the frames were got up by C. C. Vandeusen, of Sprout Brook, N. Y. I made the length of the inside of the hive the same as the L. hive, so that by putting irons in the bottom edge of the end-pieces of any L. hive these frames can be used.

I have no drawings of the hive, and have no objections to your having some made, or any notice you may wish to give. O. J. HETHERINGTON.

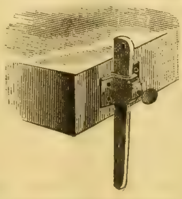
East Saginaw, Mich., April 12, 1884.

In answer to an inquiry to C. C. Vandeusen, Sprout Brook, N. Y., I learn that the corners can be furnished for about 50 cts. per 100, and in large quantities considerably less. At present we have none for sale, and shall not keep them until we have given the hive a careful test in our own apiary.

AN IMPROVEMENT IN BUZZ-SAW TABLES FOR HIVE-MAKING.

RAISING AND LOWERING THE TABLE.

I PRESUME most of you have your table-tops to raise and lower in such a way that the table is fastened at different heights, as may be required, by a wooden slide and a set-screw. Well, we have experienced so much trouble in getting stuff wrong because the table-top slipped down a little, that Mr. Gray devised the following arrangement. The device is all made of cast iron. The part holding the thumb-screw is screwed fast to the framework of the saw-table. The part that slides up and down in this piece is of cast iron, and made tapering. It is hinged directly to the movable table-cover, as you will observe. Now, it can not slip down or settle, because it is wedge-shaped, and yet if the table is to be raised it can be lifted out any time, and then dropped right back into its original place.



SET-SCREW FOR BUZZ-SAW TABLE.

REPORTS ENCOURAGING.

FROM 4 TO 20, AND 3110 LBS. COMB HONEY.

AS I have just received the last returns for my honey of 1883, I want to tell you something more of my bees and their truly wonderful yield, and then I should like to learn through GLEANINGS if any others can give an equally truthful and large result for one year from 4 stands.

My former letters told that I had 3110 lbs. comb honey, or 777 lbs. per stand, spring count, and an increase to 20 stands. I find, on reference to the account, that on April 10, 1883, they had balanced the account, I having a lot of hives, etc.; since then I have spent $15.60 for further supplies, and received for honey sold, clear of freight, commission, and all charges, $255.30. I have sold 2 stands of bees for $10.00; have an increase of 14, all in good order, and now on hand about 300 lbs. honey, besides having given away about 200 lbs. to my friends during the season. Most of my honey sold was No. 1 white comb honey at 18 cts. per lb.; and had I been an old hand at the business, my returns would have been much larger.

The bees are swarming already; but it rains so often the poor things can not get out to collect supplies, so I have to give them some full combs to carry on with.

Thousands of swarms are being brought into this county, and at the present rate of increase it will soon be fully stocked. GEORGE HOBLER.

Hanford, Cal., April 15, 1884.

FROM 1 TO 7, AND 720 LBS. OF HONEY; ALSO FROM 9 TO 36, AND 1200 LBS. OF HONEY.

I commenced bee-keeping some years ago with varied success, sometimes getting as many as 25 colonies and plenty of honey, and, again, losing almost every thing. The spring of 1882 found us with but one colony, which we increased by artificial swarming to 7, and got 720 lbs. of extracted honey, and considerable comb honey, which we did not weigh. These bees all went through winter in good condition on their summer stands. Last spring I bought two box hives, which gave us nine colonies to start with. We increased to 36, mostly by natural swarming, and got about 1200 lbs., mostly extracted honey, during clover bloom. The latter part of the season was very poor, the bees making no surplus to amount to any thing. Two of our colonies starved to death about a month ago, but all the others are in fine condition, and raising brood nicely. We have them in Simplicity hives. J. W. DROKE.

Hettick, Ill., April 4, 1884.

A BIG REPORT FROM CANADA, AND SOMETHING ABOUT HONEY FROM CANADA THISTLES.

We commenced with 30 colonies, increased to 102, and took 8500 pounds of extracted honey. From some of our best colonies we took from 500 to 600 pounds. We wholesale at 13 cts., and retail at 15. We have yet on hand 2500 pounds. Our bees did not commence to swarm till about July. I don't know about that old rhyme, "A swarm in May is worth a load of hay," and so on; for from some of our August swarms we took from 60 to 80 pounds of honey. There are a lot of Canadian thistles here, from which they got a good portion of it. Our apiary is 40 rods from the river Credit, which is almost hidden with basswood and yellow willow. They got pollen

and honey in the spring from the willow, which helped them considerably. **ALFRED HAINES.**
Cheltenham, Ontario, Canada, Feb. 28, 1884.

Friend H., when I read 8500 pounds from 30 colonies, I instinctively turned your letter over to see where such a report came from. If it had been from California, I should not have been much surprised; and, indeed, I was not very much surprised either when I found it was from Canada, knowing what great things your people did last year.

I took 265 lbs. comb honey from 3 stands last year, which encourages me to try again to get a start of enough bees to make it an object to attend to them.
Goodwin, Ark. **WM. MANNING.**

THE FIRST NEW HONEY OF THE SEASON! WHO WANTS TO BUY?

I have more honey to sell. I have at this date 3000 lbs. extracted spring honey to sell. Can you give me a bid on it? If so, let me hear it. I am taking half a barrel a dry, and can't keep up with the bees. I can send a sample by express, if desired. **ANTHONY OPP.**
Helena, Phillips Co., Ark., May 14, 1884.

Bees have generally wintered well here, although a great many went into winter quarters under rather unfavorable conditions; yet there has been a loss of only 6 colonies in 100. Bees were all well supplied with white-clover honey for winter stores, but a good many colonies were weak in numbers. Our bees were generally wintered on summer stands, with no other protection than banking up around the hives with snow. Bees are doing finely now, working on yellow willow and fruit-bloom, and the prospect is now good for plenty of early swarms, and a good yield of honey. **M. L. STOLLARD.**
Tarlton, O., May 5, 1884.

FROM 25 TO 41, AND 1621 LBS. OF HONEY.

I like to read the reports of others, whether they are of large yields, small yields, or of no yield at all. It gives us a chance to compare notes. I therefore send my report. I commenced season of 1883 with 25 colonies. Swarming commenced May 26th, ended July 27th. I let them swarm naturally. I work principally for comb honey. Took 1400 lbs. in sections, and 221 lbs. extracted, making 1621 lbs. Sold white for 20 cts.; colored, 18 cts.; extracted, 16 cts. for light, 12½ for dark, home market. Increase, 18 colonies. **THOS. DECKER, 25—41.**
Otsdawa, N. Y., April 24, 1884.

WHAT 2 LBS. OF BEES DID IN 30 DAYS.

When one has empty combs and hives, what is the cheapest way to build up an apiary! Last year from 2 lbs. of bees and queen, *no brood*, May 30 I built up 3 colonies in just 30 days, and all three colonies in good shape now. They came from Otto Kleinow, and I have ordered 15 lbs. to try it again this year. I shall probably raise my own queens this year. I think about 60 or 70 per cent of bees around here have died this past winter and spring.
McBride, Mich., April 11, 1884. **F. A. PALMER.**

Friend P., you have evidently omitted something in the above report. If you divided the pound of bees into three parts, and gave each part a queen, in 30 days these queens might have a pretty good patch of brood; but it would be a pretty hard matter for bees enough to be hatched in that time to make a good colony of each. Perhaps you mean that you did not receive any brood from friend Kleinow, but that you gave each one of the three divisions hatching brood enough to make three good stocks with what bees there were in the two-pound package.

REPORTS FROM THE NEW PERFORATED ZINC.

DO THE WORKER-BEES GET THROUGH IT?

WE have received one postal card, stating that the worker-bees did not get through; and friend Alley sends us one report, which we give below:

Dear Sir:—The drone-trap was received yesterday. On trial I find the holes in zinc are too small for my bees — Italians. Large numbers can not get through, and it seems difficult for nearly all. They pile up trying to get through. This trap, at least, would never do to put on to catch queens while swarming. **E. E. EWING.**
Highlands, N. C., April 30, 1884.

We also give the following from friend Alley in regard to it:

The above card came to hand to-day, and also a letter, making the same complaint. When the card came my bees were at work carrying in pollen, and I went and placed one of my traps having the new style of zinc in front of one of my largest colonies. I watched them for a few minutes, to see how it operated. At first they were bothered on both sides, but they soon discovered the holes in the zinc, and all went on as usual. My bees are as large as any I ever saw, and have no trouble going through the zinc, and the new zinc is good enough for me; so you may send me three sheets of the old kind and two of the new. **HENRY ALLEY.**
Wenham, Mass., May 7, 1884.

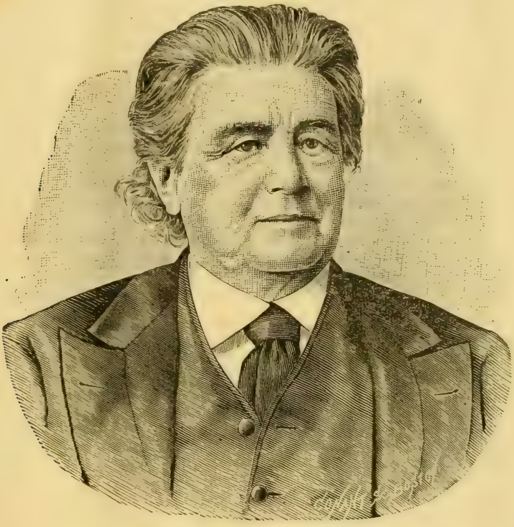
Of course, we have tried the zinc in our apiary, and the bees get through it very comfortably when they are not filled with honey, or laden with pollen. If the old zinc came pretty near restraining queens, it seems to me pretty certain that this new zinc would do it absolutely. Now, then, we are pretty near success in the matter of restraining our queens. The only drawback seems to be in hindering our heavily laden bees. Just at this point, friend E. C. Eaglesfield, of Poy Sippi, Waushara Co., Wis., steps in and sends us a model of a trap that sorts the bees as they go out, but permits them to go in without any restriction. It is simply a row of little doors made of very thin tin—tagger's tin, for instance, and these doors open inward only. When a bee comes with a load of pollen he just walks up until his head touches the door, which moves so easily that he goes right in, gives a buzz of satisfaction, and goes on. When he goes out he must go through the perforated zinc; but having dispensed with the pollen and honey, he gets through easily. This idea is certainly an ingenious one, and it has occurred to me that the slanting pins, such as our English friends use, and have been described in our pages, would do the same thing. And it seems to me it will not be very difficult to contrive so as to have the bees go out one place and come in at another. Drones and queens do not go out at all; but, if you choose, they can be made to go into a box by themselves.

LANGSTROTH, THE "HUBER" OF AMERICA.

THE following biographical sketch of our friend Langstroth, we copy by permission from the *American Apiculturist* for January. The editor has also kindly loaned us the engraving of friend L., which will doubtless prove interesting to many of our readers. The article has an additional interest, coming from our good friend J. E. Pond.

The beginner in bee culture of the present day can have no conception of the many difficulties that were met with under the "old box-hive and brimstone" style of management, or the almost insurmountable obstacles that presented themselves to the old-time amateur in an attempt to solve those mysteries which now are made plain as an open book. True it is, that in days long gone by something had been learned in regard to the habits of the honey-bee; the methods of management then in vogue, rude though they were, still were productive of some little gain. The late lamented Quinby, a man of vigorous frame, possessed of rare intelligence, and an acute, active, and far-reaching mind, not only had shown that, even with the box-hive, and such rough appliances as he necessarily used therewith, one could, by close attention to the business, and by careful, intelligent management, bring about results that were fairly remunerative, but was one of the first to see and appreciate the value of the movable frame of Mr. Langstroth, and also to adopt and use it; by which use he encouraged and emboldened Mr. Langstroth to make his invention public, and thus aided in making apiculturh what it now is, one of the leading industries of the world. Mr. Quinby also by close observation enabled himself to garner in those facts which, when published and given to the world, opened a new field for labor, both intellectual and manual; and his work on bee culture to-day, as revised by his son-in-law, Mr. L. C. Root, stands out before the world as one of the best treatises on the subject which has ever been written.

Prior to 1852, the ablest bee-keepers of both the old and the new world were endeavoring to render the management of their bees more simple and easy, and many plans had been devised (none of which were really practicable) to enable the whole interior of the hive to be put under the complete control of the owner. Bars and slats of various kinds had been used to some extent; but still, although a great improvement, they were not just what was desired. The march of improvement in this direction was slow; still some progress was made; but not until the Rev. L. L. Langstroth devised the sectional movable frame, and introduced it to public notice, was success made positive and certain; and with its introduction the doom of the old box hive was sealed, and brimstone relegated to its natural home.



REV. L. L. LANGSTROTH.

Who is the Rev. L. L. Langstroth? is a question that is often asked by bee-keepers of this generation, and perhaps it may be of some interest to know something of his history.

Lorenzo Lorain Langstroth was born in Philadelphia, Dec. 25, 1810. As a boy he took great interest in natural history, and the happiest days of his youth were those spent in watching the habits of the various insects found in and near the city of his birth. His parents were of the old school, and, deeming such studies the height of youthful folly, gave him no encouragement therein; and it was not until the year 1838, that he began to learn something of the honey-bee. At that time he procured a colony or two of bees, and began studying them under great disadvantages, he at that time never having seen or heard of a work on bee culture; and for the first year of his pursuit in this direction, the only published work of the kind that came to his notice was written by a man who doubted the existence of a queen-bee. After graduating at Yale College, he pursued the study of theology, and was settled over his first church at Andover, Mass. His health became in a short time so much impaired that he was obliged to give up his pastoral charge, and in 1839 he removed to Greenfield, Mass., where for a few years he was engaged in teaching. Finding that outdoor labor and exercise of some kind was absolutely necessary, he devoted such time as he could spare from his duties as a teacher to his apiary, and carefully verified all the experiments of which he had read, and entered into many of his own, for the purpose of gaining such knowledge by actual observation as might be useful to him or to bee-keepers in general. The methods of management then in use were not at all satisfactory to him, and he was constantly endeavoring to devise some way or means whereby complete control of the whole interior of the hive might be given him. He thoroughly tested bars and slats, and even endeavored to make a practical use of the leaf hive of Huber. This leaf hive, however, was too clumsy (as any one may learn by attempting to use one) and he became almost discouraged at the poor success he met with. At last the idea came to him, that if bees will build comb on bars set on top of the hive, why will they not build it in a frame hung in the hive? He tried this plan with fear and trembling. Failure had been his lot so many times, that he had hardly dared to hope for success with this his new fancy. As we all know, this experiment did succeed; and the result was, that in 1852 he introduced the frame to the public; and so well was his work matured, that the same style of frame he then devised is now used more largely than any other, in the exact form he first devised it, and by the ablest apiarists in the country. It will be needless to enter into the many discouragements and great opposition with which he met in his endeavor to bring his frame into general use. It has been introduced, and introduced fully and completely; and such are its merits that the Langstroth frame is now used wherever bees are kept.

By the term Langstroth frame, I do not mean simply the original frame he devised, and which he still advises; but do mean that all sectional movable hanging frames, by whatever name they may be known, are Langstroth frames.

It was the hanging, sectional, movable-frame principle, of which he was the inventor, and the so-called "Gallup," "American," "Adair," or "Bingham" frames (or, in fact, all hanging movable frames) are Langstroth frames.

As an inventor, the name L. L. Langstroth will live as long as bees are kept, and generations yet unborn will revere his memory. By means of his powers of invention, and through his instrumentality in putting that invention before the public, the apiarist of to-day, with a few days' practice only, is enabled to see and observe for himself all those mysteries of which Virgil has so beautifully sung, and which the various writers of the past were only enabled to find out, as was Huber, by long years of patient labor, such were the difficulties that then surrounded them. With the introduction of the frame, a new era began, and through its means bee culture has been raised from a business of insignificance to one that is now barely second to any other. With the old box-hive, it was possible to gain 25 lbs. of surplus from a single colony in a season. When we compare this with the average of 150 lbs. per colony in many large apiaries, and with the 1000 lbs. from a single colony obtained by B. F. Carroll, we may well be led to assert, that Rev. L. L. Langstroth is a great public benefactor.

Mr. Langstroth was not only successful as an inventor, but also as an author. His treatise on apiculture, "The Hive and the Honey-bee," stands at the head of all written works on the subject, and has fairly earned the high distinction given it, of "the classic of apiculture."

Mr. Langstroth is now an old and feeble man. His health was impaired in early youth by too close attention to his studies, and now he is able to do but little for himself. For a few months past he has been in better health than for some years, and we hope his health will remain good, and he be spared for many years to give us, through the various bee-journals, the matured thoughts of his ripened mind.

Modest and unassuming in his manners, and confiding as a child in the honesty of the world, he today, instead of having reaped a fortune as the result of his valuable invention, is not worth a single dollar. But for all this, he stands before the world as one of Nature's noblemen, an honest man. He has fairly and fully earned the proud title that all bee-keepers, who know him, admit belongs to him, —the prince of apiarists; the Huber of America.

Foxboro, Mass. J. E. POND.

REVERSIBLE FRAMES.

HEDDON'S "REVERSED" OPINION IN THE MATTER.

SINCE I wrote my article for the April No. I have slept, drempt, and laid awake over the subject considerably; talked with friend Vandervort and several others who have had so much experience with bees that they can almost tell exactly the result of an experiment before it is put to practice. I have been forced to "reverse" some of my opinions, and I am now persuaded that Bro. Howes (see page 304) has got the "bulge" on us all.

Now, Bro. Root, I want to bet you a cake of maple sugar (a 5-cent one), that if reversible frames come into general use (and I almost believe they will), that the plan of Bro. Hetherington's that you speak of, will not be the best and the one generally used. It is just what I advocated in my April, mistaken article; that is, reversing the whole hive at once. Now, Bro. Howes will soon learn that I was not poking fun at him or Mr. Baldridge, for he will see that the "Reversible Hive" presents attractions enough to make it a competitor of the reversible frame. But in the end I am fully persuaded it will be left behind in the race.

Since my former article, I have made several reversible hives, which are now piled up in my waste-room, and I suspect, after reading Bro. Root's editoral, that one of them very nearly resembles Bro. Hetherington's. It consists of a plain Simplicity case into which we place 8 brood-frames made on the same principle as is a common open top and bottom all dovetailed section, the top and bottom bars being ⅞ wide, while the end-bars are 1⅜, and close fitting. The Simplicity case being ¾ of an inch deeper than the frames gives a ⅜ bee-space at top and bottom, or both over and under the frames. I had several methods for holding these in position, a part of which I made, but none of which may be just like Brother Hetherington's, and none of which I will use room to describe. I also made a hive on the Bingham plan. I made it a little deeper and shorter, used a bottom-bar as well as a top-bar, both being just alike; allowed the end-pieces of the frames to extend ⅜ above and below the top and bottom bars, and clamped them together on the tight-end-fitting plan, with the loop wire and key, as invented and used by Mr. Bingham. I also made upper stories of wide frames to hold sections, which were clamped together in the same manner.

Now, all this works pretty well, and looks quite practical. The progressive bee-keeper naturally relishes and is strongly attracted toward a change; something new; something which he hopes is better, all points considered. Just here is where we get caught, unless we are wary, or ever on the alert. We take the blessings we have been enjoying, as an every-day matter, of course. What we have biggest in our eye is another, and brand-new advantage. We become so eager to gain it, that, almost before we know it, we trade off two or three old comforts for one little new one, and never realize the mistake until we begin to miss the old advantages in actual experience. Now, what is the advantage in my last month's article, and Bro. Hetherington's plan of reversing the whole brood-chamber at once? It is this, and a good one too: It saves time, it does not necessitate so complete an opening of the hive. This is good, and can not be denied. This is the idea that first caught me. Now, so far as I can see, this is all. Let us see what advantages there are to be enjoyed by having each frame reversible, that are not enjoyed by the reversible-hive plan.

1. We preserve that valuable advantage, "laterally movable frames." 2. That ease of manipulation, and freedom from complication, which the hanging frame has as compared with the close-fitting, or Bingham-Quinby style. 3. A tight bottom-board, which is a great comfort when moving hives for any purpose whatever, closes out all lodgments for worms, and makes the hive many times stronger and more durable. 4. Upon the reversible-frame plan, the new style of frame will ever be interchangeable with the standard Langstroth frame.

It may be argued, that Bro. Howes' frame is expensive. This is true; but it need not be, as I will show you in the future.

Brother Doolittle certainly deserves the thanks of the honey-producers of this country for his protective article on page 306. Sooner or later all must see this point; some, as an abstract principle; others, not till they feel the sting of ruinous, overstocked prices. We the producers are the support of the journals. Why are they not willing to protect us?
JAMES HEDDON.

Dowagiac, Mich., May 5, 1884.

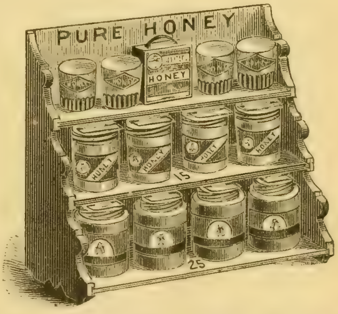
Friend H., you make a good point in that paragraph where you speak of trading off two or three old comforts for one little new one. The same thing has been done in bee culture a great many times, especially in the matter of feeders, and also in various kinds of frames and hives. What a medley of frames have been in use, and how invariably, almost, they have been swapped off, sooner or later, to go back to the old frame! I like new things as well as anybody; and may be I am a little swayed by that same old besetting sin, in my description of Bro. Hetherington's hive on another page. This hive, also, has the lateral movement of the frames, at least to a certain extent. The frame has *not* the ease of manipulation of a hanging frame. The bottom-board is secured, but is not nailed permanently to the hive, although the lower story might be made in that way. These hives could be used interchangeably with Simplicity and L. hives, I presume, but we could not have both kinds of frames in the same story. — I supposed our bee-journals were published for the express purpose of supporting and protecting honey-producers; or, if you choose, for considering their best interests.

* * *

SOME HELPS TOWARD THE SALE OF HONEY.

AN IMPROVED HONEY-STAND.

OUR friend W. B. House, whom many of you may remember, has been, for several weeks back, at work revising the A B C book. It is being revised pretty much all the time, for that matter; but just now we are adding a good deal of new matter, and quite a lot of new pictures. Below is an improvement on the honey-stand of friend Williams, which we illustrated a year or more ago. We make the carved ends of black-walnut. The shelves are some cheaper wood with a strip of black-walnut along the front. The back is made of cheap wood, stained in imitation of walnut.



AN IMPROVEMENT ON FRIEND WILLIAMS' HONEY-STAND.

Of course, our friends can vary the design as much as they choose. The honey-stand makes a very pretty ornament to set up somewhere in your home or in your honey-house, especially if you have any sort of a trade in honey. The jars and pails are all ready to hand over to a customer, and you can do the filling and all that kind of work when you have no customers around. The pasteboard box in the center of the upper shelf has proved a wonderful help to us in selling comb honey. It comes so natural to hook your little finger inside that little loop on the top, and walk off with it, that people will buy it when they wouldn't invest in honey otherwise. I think our engraver has got up a rather pretty picture, don't you? By the way, if you are dealing in implements and supplies, perhaps you can make such stands as the above during your idle season, and have them ready for sale when the honey business opens. A bee-keeper ought never to be obliged to say he has nothing to do—no, not even on rainy days, or in the fall or winter time.

The prices of these honey-stands will be the same as the old style given in our price list; namely, finished complete, lettered and varnished, $1.00; ten for $7.50. In the flat, 60 cts.; ten for $5.00. You can judge from the above price whether it will be cheaper to make them or buy them.

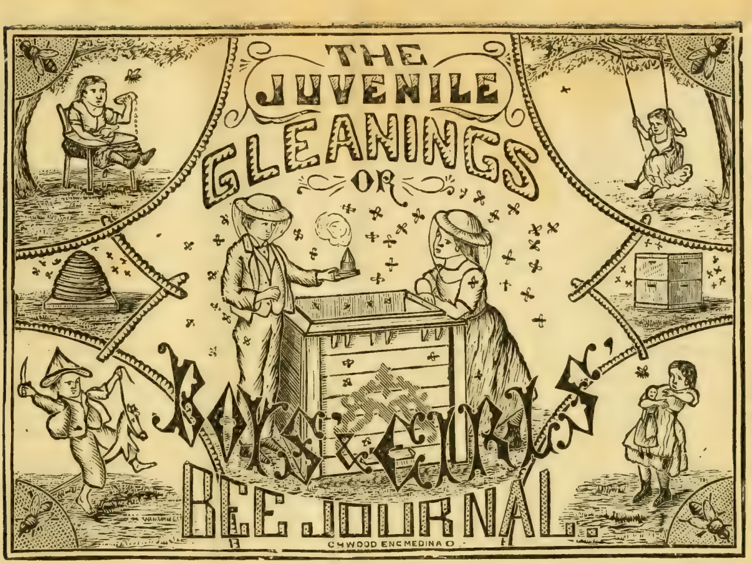
SOME SUGGESTIONS IN REGARD TO REARING NICE QUEENS.

COMMUNICATED VERBALLY BY D. A. JONES.

I PRESUME that the friends will be glad to know that friend Jones has been paying us a visit of a few days. Of course, we have had many talks in regard to bee-matters, and one of these talks was about rearing nice queens. I will try to give the plan as he described it to me. In the first place, he believes in having queen-cells built in powerful colonies. How shall we get a powerful colony for the purpose? A good many would say, "Put in brood." "Not so," says friend Jones. Many colonies have as much brood as they can take care of already. If you put in more, you are going to overstrain their powers in trying to feed a larger quantity, and the consequence is often a loss, where they would have been all right if left alone. Have any of you had experience in this way? Well, our friend John (one of our young Canadians, you know) suggested that we put in hatching brood. But it is difficult to get hatching brood without a good deal of unsealed brood and eggs as well, therefore our strengthening up has to be done by giving the colony young bees. Get these by taking some frames from a populous colony; and by tapping them, get all the old or mature bees to fly off. To get rid of all the bees that are able to fly still further, shake them on a large newspaper, or several papers, in front of the hive you wish to strengthen. All the bees that can fly will soon go home. After these white downy bees have collected in a cluster on the papers (because they do not know where to go), take a small brush or feather and start them into the hive. Any hive will receive these bees, and they rarely if ever molest the queen. Get your bees from all over your apiary in this way till your queen-rearing hive is boiling over and ready to swarm. Under the swarming impulse they will start queen-cells in great numbers, especially if they have a dash of Holy-Land blood. If they swarm, take away the queen, and let them go back, then they will build cells with a caution. Ordinarily, you know, the first queen that hatches destroys the other cells. Friend Jones says, that with this over-populous colony under the swarming impulse they will not do so. Most of you have seen a lot of queens all hatched out at once, in a strong colony. With Holy-Lands I have seen young queens flying all around, crawling over the combs, making things lively generally. I suppose many of you have seen something similar.

Well, now, here our young queens hatch out in a full colony, just like queens hatched out in a lamp nursery, or better, if you think so, for you can put them in nuclei ready to receive them, or introduce them to queenless colonies. If you keep track of the hive, you can, a great many times, cut out queen-cells where the queens are just gnawing out. As Holy-Lands often hatch a dozen queens or more inside of an hour, we can often get a pretty good lot by being on hand and ready to care for them. If you want to see queen-cells beyond any thing you ever knew of before, just use all these young queens, and let this over-populous colony, having all young bees pretty much, start in on a second lot of cells. If they have this Holy-Land dash, as I told you, they will often build the queen-cells so thick together as to look like drone brood. Of course, we can not well cut the cells apart; but a little care to be on hand when they hatch will often give us a quantity of robust young bees ready to fly the minute they leave the cell, that will bewilder and astonish one who is unacquainted with this method. The young bees, to do the work, need to be Holy-Lands; but the brood furnished them for rearing queens may be Italian or any other race you choose. It is taking advantage of the natural swarming tendency somewhat, as you see. I believe we had a report last season of a lot of queens reared in a similar way, that came out and flew around in such plenty that they went into adjoining hives, right and left. The plan is so much in accordance with the natural habits of bees, I presume, that nobody will raise any objection to it. The tendency to swarm out may be the most difficult part to manage.

Friend Jones says taking away the old queen from them will stop the swarming, and it is generally laid down as a rule, I believe, that bees never swarm unless they have a queen to go with them. Well, now, although I have never had a case that I know of where a swarm went out without a queen, or, at least, where there was a queen in the hive, that tried to go, I believe we have had several reports where they did this. I think friend Doolittle said his bees swarmed out without queens one season. When the young queens hatch out they will often lead out a swarm, and sometimes a swarm will break up in little bunches, each bunch having a queen. If they do, let them do so, and make nuclei of these little swarms. If a large swarm goes out with one of these queens, give her enough bees to form a nucleus, and send the rest back home, for they will always go home if their queen is taken away. I say they will *always* go home if their queen is taken away; but there is one chance of a mishap. If another swarm should come out having another queen, they would unite with this swarm.



. He that is faithful in that which is least, is faithful also in much.—LUKE 16: 10.

MYSELF AND MY NEIGHBORS.

And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. —GEN. 1: 26.

I WONDER, little friends, if it is warm and sunny around your home as it is here. Is the grass green, and sparkling with bright yellow dandelions? and are the bees humming merrily in the opening fruit-blossoms, so that even the horses and cattle and sheep and chickens, and the dogs and cats too, are rejoicing and happy? Is it not a grand thing to have cold icy winter a while, just so we can appreciate the glorious beauty of spring? Well, perhaps two months ago, one morning when I started over to breakfast it was raining and freezing. It did not look a bit as it does now. As I passed along I noticed a poor forlorn-looking cat that had been out in the rain and snow until she was wet and cold. As I looked toward her she gave a sort of sorrowful mew, indicating that she did not feel happy, just that cold icy morning. Of course, my first impulse was to say, "Poor kittie!" and I stretched out my hand toward her; but she backed off, wondering, evidently, whether I was not of the kind of people who played tricks on cats by making believe I was kind and friendly, only to turn about and scare them out of their poor little wits. I talked to her soothingly, and I remember wondering whether I was equal to the task of disarming her prejudice toward the cold world.

I have been told that I have a faculty of disarming almost anybody, if I can get a chance to talk with them. I have told you something about disarming horses when they get stubborn and ugly, and bent on mischief. I did not succeed enough so that I could pat her with my hand; but she was in so poor a plight, and felt so miserable and forlorn, she probably concluded she could not do much better than to follow the only kind voice she had heard that morning, anyhow. She followed after me, mewing plaintively up the stone walk, and up on to the porch. She caught a glimpse of the warm stove, and doubtless smelled the preparations for breakfast. She couldn't quite overcome her scruples sufficiently to come in, though kindly invited. Mrs. Root gave me a bit of meat, and I managed to get her to come and stand on the porch while she ate it, and Huber opened his blue eyes, looked at his papa, and then at the cat, and gave one of his inquiring grunts. I can't spell it in letters, but it was something like "eh?". Papa told him it was a poor kitty that was wet and cold and hungry, and he put out his little fat hand, and asked a great many questions, evidently having his sympathy aroused because mine was. I do not suppose you could understand his questions; but his papa was very much edified by them.

After she ate her meat she went off down the walk again, and I thought no more about it until some of the hands were making remarks about a "tramp cat" that had been seen around in the factory. Pretty soon I caught a view of the tramp cat, and it was my acquaintance of the morning, sure enough. When there were nothing but strange faces all around her she gradually sidled up toward me, thinking, doubtless, that, as I had given her the meat, it would be about as safe to trust to me as anybody; and it was not long before she came up and sat on my lap while I read the letters, purring with intense satisfaction to feel that she had at least one friend in this cold icy world. I had talked kindly to her, and had fed her when she was cold, and was not that enough?

During the day she went out around, foraging about; but between five and six in the morning, when I was reading my morning mail all alone in the office, or pretty nearly alone, she was my company. I would see her during the day in different parts of the factory, peering around in the dark-room, looking behind the cans of maple molasses, and the barrels of counter goods and glassware. It seemed to me as if she felt grateful, and concluded the best way of repaying would be to look up the mice, and take a general oversight of things. I need hardly tell you that cats are very necessary helpers in our factory. The mice would not only get into our flour and eatables, but they would go into our seeds, papers, and make sad work in a hundred ways, if it were not for the cats; and yet for some reason I have hard work to make the boys remember this, and treat the cats kindly.

Not many months ago one of our cats was blinded in one eye. On inquiry I was told that some of the boys in the tin-shop threw things at them when they came around, and that was the way this one got an eye put out. Are you ever unkind to kitties, my friend? I know it is sometimes necessary to have cats killed, or got out of the way, when they become so numerous as to be intrusive; but, dear friends, this should be done with kindness and love for the poor dumb brutes, and with as little pain as possible, should it not? I know some of the boys thought we had cats enough, and regarded this new tramp cat as an intruder. Perhaps they laugh at my weakness in befriending tramps of all kinds, or, at least, of giving them a chance to prove themselves worthy of help and assistance. As a rule, I am pretty fierce against tramps in the human family, and they do not often get a bite to eat, either at the factory or at the house, unless they go to work and earn it in some way.

Well, after the new cat had been around a week or two, I noticed one day that she was dragging herself around as though almost unable to walk, and I made several inquiries as to who had been so unkind as to harm our new friend. I did not find out for some time; but finally I overheard and guessed enough to get at the following. May be I have not got it just right, for I do not like to go questioning around about others; but I think in substance it was about like this:

After kitty had looked over the factory pretty thoroughly, to see there were no mice anywhere, she wandered into the out-buildings, and finally across our branch railroad track into the old station-house, or freight depot. A couple of grown-up boys saw her in there; and thinking it would be a good idea to "have fun" with a "strange cat in a strange garret," they armed themselves with clubs, or bits of boards, and began to chase her. Poor kitty! Perhaps she had begun to imagine that humanity is kind, after all, and that people are not wicked and bloodthirsty; but now with yells and great clubs she was being persecuted and pursued, first behind one pile of boxes and barrels and then another. Blow after blow came, even though she had offended nobody, and did nothing at all out of the way, until, wounded and bleeding, she dragged her poor suffering body under the porch or into some place of refuge, to lie down or die, or possibly recover. The boys, of course, had a big time; for if they did not succeed in killing her, they "broke both her hind legs, any way," and seemed to think they had done a very commendable thing in having accomplished so much.

Dear friends, during these last few years a great society has been formed for the prevention of cruelty to animals. Horses and dogs have been cared for, and made happy; but what has been done for poor kitty? but more than all, what has been done for our grown-up boys, to teach them to love not only humanity, but to love the poor dumb brutes God has placed about us? The little story I have told is exceedingly boylike. Such things often happen anywhere. But may God help us to educate our youth in a different way!

In a recent Sunday-school lesson we had the expression, "Charity suffereth long, and is kind." Do you not think, friends, this kindness should extend even to cats and dogs? Poor kitty seemed to have more of the virtue of charity than we often see in humanity. We read in the above chapter, "Charity endureth all things."

I went up to poor kitty as she lay licking her wounds on top of a barrel. She mewed plaintively, but seemed to cherish no hard feeling, and had nothing laid up. She even purred in gratitude when I stroked her with my hand, and in a philosophical way seemed to pass the matter by as only a part of this world's experience. I have thought several times of talking to these young men. I have wondered how I could present the matter in such a way they would not feel unkindly toward me, and yet realize what a wrong thing it is to torment poor and defenseless brutes. The matter has been much on my mind; and when I realize the amount of suffering and pain that has been inflicted in this careless sort of way, there comes a great welling-up from my heart, "Lord, help! Lord, help!"

I have told this little story, friends, hoping that some boys might read and ponder over it, and declare they will never more be guilty of frightening a poor kitty, to say nothing of hurting them by cruel blows. They are God's creatures, and we are his children; for do you not remember in our opening verse,

> Let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth?

SOMETHING MORE ABOUT GRANDPA LANGSTROTH.

MRS. HARRISON GIVES US A PEN PICTURE OF HIM AND HIS HOME.

WELL, children, Daniel Webster *used* his eyes at the convention. Didn't he? I wanted to have a chance to talk more with grandpa Langstroth, so I offered to be his *beau* to go to dinner. I don't see any reason why a woman can't beau an old gentleman, do you, provided she is strong enough, and has money enough to pay for the dinners? So we started across the street to the restaurant. Grandpa had his cane in one hand, and I took hold of his other arm. When we got there we sat down at one of the little tables, and had to wait for it be cleared up; and while this was being done we talked. He said he had two married daughters, and one had seven children, and the other had none. Guess which one grandpa lives with.

He said his grandchildren were a great comfort to him, and he pared with knife, apples and other fruit, and cut it up for them. His little grandson, three years old, sleeps with him on the east side of the house; and one morning he looked out of the window and saw the sun, round and red, and he said, "Dranpa, tut up that bid sun, and div me a piece of it."

I wanted, after dinner, to have grandpa go up in the cars with me to Farwell Hall; but along comes a bustling little man with short legs, and he holds up his head so as to see through his gold spectacles, and says, "Mrs. Harrison, you are not going to have Mr. Langstroth go up town with you." So Mr. Newman took him to his house for a rest and an ap, as he had a cold.

Are you not all sorry that grandpa has been sick so long? And won't you pray God to make him well again? LUCINDA HARRISON.

Peoria, Ill.

Thank you, Mrs. H. It seems to me I could see you and our old friend going across the street, and sitting down at your little table, and I know exactly how he looked when he told that little story about one of the grandchildren. I think I shall have to tell here a little story he told me in Toronto. He was speaking about the significance of that expression so often used in the Bible, "Milk and honey," and he remarked that, when any one is made sick by eating new honey, a good drink of milk will always cure it. You know I always like a pitcher of milk when I have bread and butter and honey. Well, last spring when new honey began to come in at friend L.'s home, they all wanted a taste of it; and when some was put on the table they ate quite freely of it, especially the children. Before going to bed friend L. said he felt some distress from eating so much honey, and so he took a drink of new milk. On the way up stairs to his bed he met one of the little ones, probably the same one whom he speaks of, who wanted to "tut up that bid sun." The little fellow was in his night dress, and was coming down stairs with a doleful face, rubbing his little stomach, and saying,—

"O dranpa! I dot tummy ache, I dot tummy ache."

Good old grandpa soothed him by his voice, and took him kindly by the hand down stairs, gave him a good big drink of milk, and all was well. Now, little friends, when any of you get the "tummy ache" from eating too much honey, just remember grandpa's remedy, and let me know if it cures you as it did little ——; and, by the way, that reminds me that grandpa has never yet told us the name of his little bed-fellow. We want to know more about those grandchildren. Will not good friend Cowan tell us something about them? May be one of them will write for the JUVENILE, and tell us about grandpa while he is too sick to write himself.

THE DISCOVERY OF SILK.

COMPILED AND WRITTEN BY MISS NELLIE LINCOLN ROSSITER, PRACTICAL SILK CULTURIST, 6054 VINE ST., PHILADELPHIA, PA.

Continued.

IT was reserved to the great Henry IV. to introduce the culture of silk into France, at the beginning of the seventeenth century, and it constituted one of the splendid epochs in the history of that kingdom. Olivier de Serres was the most instrumental in this new acquisition, and the French call him to this day the patriarch of agriculture. In the year 1600 he published a book entitled "Theatre d'Agriculture et Mesnage des Champs," by which light, as it were, succeeded darkness in rural economy; and it was read with so much eagerness that thirteen editions were printed within a short space of time. This success, however, he chiefly ascribed to the excellent king and to his wise minister, Sully, who were the first to view agriculture in all its important relations, and gave to France the blessings of a "golden age.*"

"In presenting to your Majesty the Theatre of Agriculture and Management of fields, I do but call your attention to your own affairs." Delighted with the book, the king honored the author with a most obliging letter, written with his own hand, and desiring him to come to Paris. Olivier left, with great regret, his fine estate, in 1601; though he could not disregard a call which tended to make him more active for the good of his country. Scarcely arrived at Paris, he received the greatest distinctions; he soon became the confidant and adviser of the king, and of Sully; and wise laws and regulations concerning agriculture were enacted. The king offered Olivier the highest honors; but he asked one favor only: That all useless trees might be banished from the royal gardens. When this was granted, Olivier went to work with such diligence that throughout the kingdom the measure was executed within a short time. But this was not enough for his patriotic zeal. Upon his recommendation, 14,000 mulberry-trees, and a great quantity of seed of the same tree, were ordered from Italy, to supply the vacancies intentionally made in the royal gardens. In later times, he procured, also, from Italy, silkworms' eggs, and acquainted people with their rearing. The trees, the eggs, and a printed instruction, respecting their use, were distributed, gratis, to agriculturists, and the new industry was particularly recommended to the fair sex. Well, therefore, may Henry and Olivier be called the creators of the culture of silk in France.

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* From such impulses the good king used to say, that "each peasant ought to have daily a chicken in his pot," and hence the eager search after talented men, and the favor shown to them; the facility with which Sully extinguished, in the space of ten years, the public debt of two hundred millions that had been accumulated during the war; the surplus of thirty millions, which the treasury possessed, ten years later; the general welfare throughout France; and, finally, the encomiums bestowed to this day upon the great monarch and his truly great minister.

The most singular feature of this innovation is, that the king did contribute more to its introduction than any of his ministers. Him alone was Olivier able to convince of its utility. He failed with Sully, who generally acted with great wisdom, but who, upon this occasion, was directly opposed to salutary advice. It is curious to find the remarks, to be found at the conclusion of the 16th book of Sully's Memoirs. I shall not omit to mention here what was done in France, in the year 1603, in regard to manufactures, and especially those of silk. Henry, who embraced with ardor every means to increase the welfare and glory of the kingdom, suffered himself to be persuaded that nothing would be easier than not only to become independent of foreign countries, in regard to the fabrication of such silk stuffs as are imported into France, and which the French were accustomed to procure from a distance, but to make them serve as an important branch of the national trade. Nothing more was necessary for this, it was said, than to promote the rearing of silkworms, the plantation of mulberry-trees, and the building of houses appropriate for this species of manufacture.

A LEAF FROM THE LIFE OF AN ORPHAN.

ALSO SOMETHING ABOUT THE BOOK OF BOOKS.

WHEN Sarah Paxon was quite young her mother died. Sarah was, therefore, left to the care of her two grandmothers. Now, these two old ladies were very good when surrounded by proper influences; but, like the chameleon, they sometimes changed their colors. One of these grandmas wanted the waif, and the other was determined to have her; and Sarah, being too young to have her say, let them have it their own way. Grandma Loraine having possession, took care of the child in her own style, which was exactly opposite from the style of grandma Paxon. So the latter lady devised a plan to "turn the tables." Sarah's father was to aid her by getting the child, under pretense of taking her to church—grandpa Paxon to be at the door of the church to receive her.

In this way Sarah got a new home. Grandpa Loraine returned this compliment of grandpa Paxon's on his death-bed, by bequeathing poor little Sarah but fifty dollars instead of the one thousand which should have been hers.

Innocent Sarah grew from babyhood to childhood, and partially reunited the two families; but she was early twitted about her fortune. The Paxon's would laugh at her, and the Loraines ask her what she intended to do with her estate.

At the age of twenty Sarah left her girlhood home to become a wife, and in one more year she stops at a furniture store and spends fifteen dollars of her fortune for a cab for her boy, and the rest of her cash she divided out as follows: Ten dollars for a dress, seven for a porker, and the rest for sundries. The cab soon went to staves. The dress wore out, the pig turned into lard, sausage, side meat, etc., and that was the end of poor Sarah's wonderful fortune. Now, don't you think if she had bought some bees she would have been as well off—perhaps hundreds of dollars ahead? Sarah has made a great many mistakes in life, and she has found experience to be a dear teacher. She thinks it cheaper to follow good advice than risk her own judgment. She likes the advice she finds in GLEANINGS, especially the Home Papers; and when she finds nothing to suit her case there, she has found a most wonderful book which is a sure guide-book for every case that can be recorded. Brother Root may sometimes make mistakes; but there is absolutely no risk in risking this Book of books. E.

Thank you for this sketch, my good friend E.; and may God be praised that we have that Book of books, that safe counselor, within the reach of every poor mortal! And may God help us to remember that there is absolutely no risk in taking this book for our guide.

BEES, WHISKY, AND TOBACCO.

A JUVENILE LETTER AND SOME JUVENILE POETRY.

WE are located on a beautiful stream in the far West, 100 miles from Seattle. We are putting up a saw-mill this season. The flowers are all commencing to bloom. One can stand on the snow and pick flowers. The ground doesn't freeze here. There is an abundance of flowers here in summer, and I think it a good place for bees, although there are none in this vicinity yet. Bees are very useful; and as soon as we can get any near enough, without being killed on the way, we will have some. Every time I look at John's dream of the toad, mauling the bee with a spiked club, I have to laugh.

WHISKY.

Boys, keep away from the saloon.
Or a drunkard you will be too soon.

You will be degraded,
And your name will be faded;

Your folks will be disgusted,
And you never will be trusted.

I had rather be a slave
Than to go a drunkard to my grave

If you are asked to take a drink,
Just stop awhile and think.

How dare I be so low,
And give the answer no?

TOBACCO.

Tobacco is a filthy weed,
Never known to be in need.

When the dirty weed gets ripe,
It's most ready for the pipe.

When you get a pipe full smoked.
Think how often you have choked.

I will say in my highest tone,
Everybody, let the weed alone.

I'll not charge you any price,
If you'll just take my advice.

J. D. SEATON.

Ellenburgh, Kittitas Co., W. T., March 26, 1884.

Friend S., I do not see why bees won't prosper in any locality where the ground does not freeze. We have made several shipments to Washington Territory, and, if I am correct, we have had some pretty good reports.—So you liked the picture about John's dream, did you? Well, friend S., I will tell you, confidentially, that there is some talk of having Mr. Merrybanks and his neighbors all in a nice little book. When I used to write it every month it came in such disconnected portions that our little friends, and some of the older ones, did not recognize it as only a story. If it is all in a book by itself, perhaps it will sound better. Thanks for your poetry.

JUVENILE DEPARTMENT

Every girl or boy, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock, six different books, as follows: Silver Keys, Sheer Off, The Giant Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

"A chiel's amang ye takin' notes;
An' faith, he'll prent it."

A GOOD many messages for Huber come in these little letters, and one little girl asks me to tell more about him. Well, he is now almost a year old, as you may remember, and he goes all over the house, and would go up stairs if not watched and stopped. He soils his clothes so much that his mother has made him a creeping-skirt, but I call it his "overalls." It is lucky he has overalls, too; for a few days ago he slipped off and crept into the pantry. As his mother was very busy, and as she thought she had put every thing away up high, she concluded to risk him there awhile. He was very quiet and still for some time, and finally she thought she heard something that sounded like eggs. What do you think? He had got the egg-basket and picked out the eggs one by one admiringly, and put them in his lap. Then he thought he would put them back in the basket again; but as laying them in carefully was too slow business, he just tossed them in. We had plenty of eggs for supper, and mamma didn't have to go to the trouble of breaking them. He daubed eggs all over his face and hair, and all over his clothes. When found, he he was gazing at his fat fingers daubed with white and yellow, and then he tried in vain to pick up the yellow and put it in his juicy little mouth.

Next day he got a plate of comb honey; and after he had fed himself, baby fashion, he experimented by getting a handful of honey, and then opening and closing his little fist. Yesterday he made another voyage into the pantry, and managed to reach the coffee-mill. He pulled the drawer out; and when his mother found him he had just finished sifting the ground coffee pretty evenly all over the floor. He can neither talk nor walk yet; but if you should see him when he first gets sight of his papa, you would readily believe me when I tell you that he succeeds pretty thoroughly in making everybody understand what his wishes are. He already loves the honey-bees, and I can not tell which would set him wild quickest —to say to him, "Go see bees with papa?" or "Go see the great big engine, and see wheels go round, round, round?"

Now, then, little friends, I have told my story, you go and tell yours.

KITTY'S REPORT OF HER PAPA'S WINTERING.

My papa keeps bees. Last winter he put away 70, and lost about one-third of them.

KITTIE M. BARGAR.

Border Plains, Webster Co., Iowa, April 15, 1884.

3000 LBS. OF HONEY FROM 37 HIVES.

Papa has 37 hives of bees. We got over 3000 lbs. of honey last summer. I have a little brother three years old. He got stung last summer under his eye.

CARRIE SHEERES.

Clarksburg, Ont., Can., March 15, 1884.

CHARLEY'S LETTER.

The willows are in bloom, but it is so cold that the bees can't gather any thing. It is raining all the time out here. Pa fed the bees rye flour, and they gathered it up in a hurry. CHARLEY NELSON.

Danforth, Ill., April 21, 1884.

HOW TO MAKE RUSTIC BEE-HIVES.

My brother keeps bees. He has three swarms. He lost two this winter. He made two hives; they look like log houses. They are rustic work, and look very nice. He buys his goods of E. T. Flanagan, and he says he would buy from no other.

Webster Grove, Mo., Apr. 23, '84. MARY STAHL.

FROM 1 SKIP TO 10 "SKIPS."

My grandpa gave me a skip of bees, and they increased to 10; they make a good deal of honey from basswood. I help make wide frames. Mamma says God says he gave six days to labor, and the seventh day to rest. THOMAS H. WILLIAMSON, age 10.

Covert, Seneca Co., N. Y., March 17, 1884.

JOE'S REPORT.

My mother has 15 hives of bees, and has sold two, and I have two of my own, but have had no swarms yet. My father doesn't like to have any thing to do with bees, but likes the honey mighty well.

JOE B. GREENE, age 14.

Birmingham, Ala., Apr. 20, 1884.

THE WAY CHARLEY EARNED HIS SWARM OF BEES.

I promised to let you know how I got my colony of bees. They belonged to mamma. She gave them to me for helping her last summer. I help her wash dishes, mind my little brother, and many other things. CHARLEY A. SEABRIGHT.

Blaine, Ohio, April 25, 1884.

THE WAY ROSE'S PAPA MAKES A SWARMING-POLE.

I wrote to you once before. My father takes a long stick, and then some hemlock boughs, and fastens them upon the stick, and then takes some mullein-stalks, puts them in with the hemlock, and it looks like bees, and the swarm goes there.

New Milford, Pa., Apr. 23, 1884. ROSE SMITH.

ALICE'S SECOND LETTER.

I write to let you know how our bees are doing. They all got through the winter but four hives, and they died. We have 18 hives left. I help my ma milk. We have two little calves and one little chicken. I help my sister Katie wash the dishes. This is my second letter. ALICE GOUGH, age 10.

Rock Spring, Mo., April 17, 1884.

HARVEY'S REPORT.

My pa keeps 75 hives of bees, and makes piles of honey. HARREY S. LINCOLN.

Rupert, Bennington Co., Vt., March 9, 1884.

KATIE'S CHICKENS.

Ma set a hen with 14 eggs, and they were hatched December 25, and I raised them in the kitchen; but I did not do as well as the old hen would have done. I lost four of them; but the rest are doing very well. KATIE BARNWELL.

Orbisonia, Huntington Co., Pa., March 17, 1884.

A FACT FOR BEE-HUNTERS.

In bee-hunting in Australia, the natives attach the light down of a owl or other bird to the back of a bee, and are thus enabled to trace the bee in its flight to its home. ROSEY SMITH.

New Hamburg, Ont., Can., March 7, 1884.

It seems to me your letter is rather short, Rosey, is it not? You used to write good long letters.

HOW VANCE HELPED WHEN THE BEES SWARMED.

I live in Irving. It is between Indianapolis and St. Louis. There is a man here who has 150 stands of bees. His name is Dr. Hobson. I worked for him about 5 days in swarming-time. Sometimes there were 5 or 6 swarms a day. My father is a wagon-maker. VANCE RARER.

Irving, Mont. Co., Ills., March 10, 1884.

HARRY'S REPORT OF THE BEE BUSINESS.

I worked for a man last summer who has about 150 stands of bees. They averaged about 8 swarms a day. I got stung several times, and do not like it very well. My father is a shoemaker.

HARRY YEMARS.

Irving, Montgomery Co., Ills., March 10, 1884.

Friend Harry, there are worse things in the world than bee-stings. See if you don't agree with me when you get a little older.

CHARLEY'S BEE-HIVE, AND THE HONEY HE GOT FROM IT.

We have 6 swarms now; last fall we had 7; one died in winter. Father gave me a swarm last spring. It swarmed once, and gave about 50 lbs. of comb honey, which we sold at 25 cts. per lb. Out of the 3 hives we sold about $35.00 worth of honey.

CHARLEY H. HOBERT.

Rome, Marathon Co., Wis., April 27, 1884.

ROSALIE AND HER FOUR SWARMS OF BEES.

Pa has 15 swarms of bees, and I have 4. They are all young swarms but one. We did not get much honey last season. Last summer my brother and I hived two swarms of bees when pa was away. I help pa take care of the bees, and I like them; but ma says she hates bees. Pa has got one of your A B C books, and I read some of it.

ROSALIE WARFLE, age 14.

Tracy Creek, Broome Co., N. Y., March 15, 1884.

A LETTER FROM THE ORANGE-GROVES.

Papa has bees, and I help him attend to them, and have been doing so for the last three years. One time one stung me on my eyelid, and by night it was so swollen that I could hardly see out of it, and another one stung me on my nose. Papa has an orange-grove, and it is in bloom now. I send you in this some of the blooms. Then are very sweet, and are white. JACOB P. MENDEL.

La Grange, Brevard Co., Fla., March 10, 1884.

PERRY'S DESCRIPTION OF THE BABY HERBERT.

I am a little boy 7 years old. My pa has got 28 stands of bees. We got lots of honey last summer. I go to school. I have three brothers and one sister. The youngest is a baby, 8 weeks old. His name is Herbert. He has got blue eyes and black hair. He weighs 15 lbs. PERRY WHITING.

New Lebanon, Mont. Co., O., April 24, 1884.

CARRYING BEE-HIVES ON HORSEBACK.

My father has 109 swarms of bees. They are doing nicely. We expect swarms next month. We are having lots of rain this year. We have had about 26 inches so far, so there will be plenty of flowers for bees this year. My father moved his bees over the mountain on horseback, when we moved to this valley. ERNEST HILTON, age 10.

Los Alamos, Cal., April, 1884.

QUINCY'S EXPERIENCE.

I am a little boy. I have four colonies of bees. We have 33 in all. One colony swarmed out. They had no honey. I hived them, and they got confused, and tried to kill the queen. I took her from them in one of pa's hives that was queenless and very weak. She would not go to laying. Then we put a frame of sealed brood in the hive. She is now laying finely. My colony has raised a queen. My bees are all blacks but one. QUINCY FORGERY.

Blooming Grove, Tex., March 30, 1884.

FROM 18 TO 27; 100 LBS. OF HONEY, AND 3 BARRELSFUL BESIDES.

Our 18 colonies of bees came through in good condition last spring; we increased to 27, and took 3 barrels of extracted honey, and nearly 100 lbs. of comb honey; pretty much all made from white clover and basswood; but after basswood-bloom, the bees made scarcely any honey at all, so we had to feed them some before we put them away last fall. DORA STOUT, age 10.

Richland Center, Richland Co., Wis., March 3, 1884.

ROBERT TALKS TO US ABOUT THEORY AND PRACTICE.

About as good a method of beginning bee-keeping as can be adopted, under existing circumstances, is for the tyro to obtain a manual of apiculture and a hive of bees. He must largely be self-taught. The theory can be got from a manual, but the practical part must be obtained by actually handling a hive of bees during the working season, when the various operations of breeding, storing, comb-building, and swarming, are going on. ROBERT WOOD, age 13.

Horning's Mills, Ont., Canada, Apr. 28, 1884.

ROBBING BUMBLE-BEES' NESTS.

I am a regular hand to kill bumble-bees, but never had much to do with honey-bees. I killed 9 nests of bumble-bees last summer, and never got stung a dozen times. I have a dog; his name is Bob. He can catch a rabbit sometimes before it can run ten feet. My dog and I have caught a lot of rabbits this year. I have a little garden, and I raise popcorn, onions, and watermelons.

CHAS. G. ATKINS.

Kirksville, Monroe Co., Ind., March 7, 1884.

Friend Charlie, when bumble-bees' nests are annoying they may have to be destroyed; but I hope you will remember that it would be wrong to tease and kill the poor insects through wanton cruelty, or, if you choose, just to have fun with them. Bumble-bees are God's creatures, just as well as the cats and dogs that I have talked to you about on another page.

FROM 3 TO 17.

My pa has 17 swarms of bees; last spring he started with 3. PAFFROW MORES.

Dupont, Hennepin Co., Minn., April 7, 1884.

MINNIE'S REPORT.

My papa had 19 swarms last fall; he has only 16 now. He lost three. His lightest swarm is all right yet. It was very light, so he plugged up the entrance so only one bee could get out at a time, and now it is quite strong. I am going to take care of the bees next summer. MINNIE BURK, age 14.

Crystal, Mich., March 12, 1884.

ETTIE'S REPORT.

Father has one swarm of bees, and my brother-in-law has 25, and he packs them on the ground with sawdust, making a nice dry shed over them. He sold about $100 worth of bees last fall, and about 500 pounds of section comb honey at 25 cts. per pound. ETTIE LATHAM, age 13.

Hilliard, O., March 10, 1884.

ELLA'S LETTER JUST AS SHE WROTE IT.

WEII MR Root i SaW the other Iittl giRIS Was Riting to yoU and i right to you to. i Iike to helP Pa eXtract honEy. i Wo⊃ID Like to help Pa With the Bees. But When they stiug Me on the face it sWelI my eyes Shut. WeII MR Root if this it woRt h a Ietter Pleas senD me the siIver key. Ella KiRk, age 6.

GoIumbus, CheRokee Gounty, Kans.

WHAT CONSTITUTES THE BEST PAPA IN THE WORLD?

Well, Mr. Root, pa had 27 stands of bees, and sold one. We got 1200 lbs. of honey last year. I like to help pa with his bees. When they sting me it does not swell. Pa is not going to increase in number, but he is going to build them up strong. He thinks that is the best way. Our bees are all alive so far. I saw that one little girl said she had the best pa in the world because he did not drink nor smoke nor play cards. My pa is still better than that. He does not do any of them, nor chew tobacco, nor swear, and I think he is the the best pa in the world.

Columbus, Kan. HATTIE KIRK, age 11.

HOW PARTHINA'S FATHER TAKES DOWN SWARMS.

My father had 25 stands of bees the first of May, and has now increased to 40. He did not have boxes enough. Most of the time he put two swarms into one box, and they did well. Pa got the bees in the orchard. I watched them in swarming-time. If they settle down on a low limb, pa puts a box under the tree, and shakes them down in front of the box; and if they are too high up, he sets a ladder up against the tree, and cuts the limb off, and carries it down. Sometimes he takes a pole and puts a bucket on it, and holds it under the swarm, and gives the bucket a shove against the limb, and they all fall in, and then pa takes the bucket down and empties it in front of the box.

PARTHINA REICH, age 12.

Cooperstown, Ill., March 6, 1884.

HOW WILLIE AND HIS FATHER MADE THE PICKET FENCE.

I weigh 115 lbs. Who can beat that? This is a nice day, and we are making garden. Pa and myself have been making pickets this spring. We hauled the logs to the mill and got them sawed into boards ⅞ thick, and then we took our thrashing-engine and sawed the lumber 3 feet long on our wood-saw, and then we took the rip-saw and ripped them up 2 inches wide, and I ran the engine. Don't you think I did pretty well for a boy 11 years old?

My uncle John keeps bees, and he told me that by writing a letter to you you would send me a book.

WILLIE E. GRATE, age 11.

Yale, Portage Co., Ohio, May 1, 1884.

A SOLUTION OF THE PROBLEM ABOUT THE HONEY-CANS.

The solution of the problem by Harry Labarge, in JUVENILE GLEANINGS of February 15th last, I find to be as follows: Pour the 3-gallon jar full, then empty the same into the 5-gallon jar; fill the 3-gallon jar again out of the 8-gallon jar; then fill the 5-gallon jar out of the 3-gallon jar; pour the 5-gallon jar into the 8-gallon; empty the 1 gallon left in the 3-gallon jar into the 5-gallon jar, then fill the 3-gallon jar again out of the 8-gallon jar, and empty the 3 gallons again into the 5-gallon jar, which will leave 4 gallons in each of the 5 and 8 gallon jars. We have very cold weather here, and also good sleighing. Our bees are in the cellar, and are in a good condition.

THEODORE G. KYBER.

Green Bay, Brown Co., Wis., March 10, 1884.

Quite a number of answers have come in solution to the above problem; but the above answer will suffice, I think.

LETTER FROM A LITTLE CANADIAN GIRL.

My brother has 85 colonies of bees. Part of them are Italians, and part are blacks. They gathered lots of honey last year. He sent some of it to Montreal, and sold some at home. I like to watch the bees in the summer; and when they swarm, I run and tell papa or brother Frank. I should like to call you Uncle Amos as some of the boys and girls do; may I? I wish I could see little baby Huber. Are his eyes blue or black? My eyes are black, but I have a little brother 4 years old who has blue eyes. Does little Huber walk yet? I should like to give him a good kiss. Mamma told me about where your girl cut paper dollies. Tell her I should like to be there and help her. I go to school every day. I hope this letter is not too long. My sister Alice helped me spell some of the big words. Do you like to have so many little boys and girls write to you?

BERTHA J. JONES.

Bedford, Quebec, Canada, March 8, 1884.

By all means, call me "Uncle Amos," Bertha. I should like to have all the little boys and girls in the world feel as well acquainted with me as if I were their uncle in very truth. You will find a lot about Huber on another page.

MATTE'S STORY AND ITS MORAL.

My pa keeps bees. He has 15 colonies. Two years ago he had only one, which he purchased for $3.00. They swarmed 5 times the first summer. We put them in the cellar; but when we took them out in the spring there was one weak swarm, and the rest pitched into them and robbed them of about 25 lbs. of honey. MATTE W. MOSHER.

Delavan, Wis., April 7, 1884.

Do you want to know what the moral is, Matte? It is this: Be careful about leaving a weak force of bees to stand guard over a hive full of honey. A great many big troubles have come about just by carelessness in this one thing.

CASPER'S REPORT.

My brother had ten hives of bees, six of them black and four of them Italians. I don't think he got much honey from them. This winter he lost three hives of them, so he has but seven. My father had a misfortune. On March 10 he had a saw-mill and a tub-shop burn down for him. I have a twin sister named Carrie. CASPER J. PETERS, age 11.

Very good, Casper. I suppose you are the boy your sister tells about below. Going to have a hundred, are you? Well, I hope you will; and I hope they will be, every one of them, *tall* ones too.

I now sit down to tell you that I am one of your little bee-girls. I like honey on my bread, also on my pancakes. My brother has ten swarms of bees; intends to increase to a hundred.

CARRIE A. PETERS, age 11.
Bleecker, N. Y., March 17, 1884.

THE ANTS, THE FLOWERS, AND THE BEES.

The ants got in our bees, and we had a bad time getting them out. We have some peas, onions, potatoes, lettuce, peppers, and corn. I have a plum-tree, and this morning the bees were all over it. When we looked in the hives this morning they had a lot of honey. I have a flower out here that is just like a pitcher, and is yellow. Every morning it is full of water. EDDIE ORRELL.
Vernon, Jennings Co., Ind., April 26, 1884.

Eddie, if that yellow flower is full of water mornings, when there has been no rain, I am inclined to think you will find the water is sweet water; and may be if you have enough of them you will find the bees carrying in this sweet water to make it into honey. Just take another look, and see if I am not right.

SAVING A QUEENLESS COLONY BY TAKING A QUEEN FROM A VERY WEAK ONE.

I help my brother-in-law. Last summer he had only two swarms. He bought 5 more last fall. I helped him last fall to pack them. He wintered them out on their summer stands. None were queenless last fall. Five came through strong, and two came through weak. That one had about a handful left. He took the queen and put it into the queenless swarm the 17th of March; he looked the other day, and she had a nice lot of brood, so I guess they won't kill her. He is a beginner, and likes the bee business. MARY E. SPARKS.
Grattan, Kent Co., Mich., April 16, 1884.

Friend Mary, we can often save a colony in the manner you state; but I should say, where you have such a weak one as that, with a queen, take the bees, queen and all, and give them to the stronger one that has no queen.

RECIPE FOR GINGERBREAD; FROM A 10-YEAR-OLD.

After reading Mary Rhodes' recipe for ginger-snaps, I thought I would tell her how I make gingerbread. One cup honey, two eggs, half cup butter, one large spoonful ginger, one cup sour milk, one teaspoonful soda, flour to make either soft or hard. I have made it both ways, and papa said it was very good. I have also made several batches of bread which papa pronounced excellent. I was ten years old last month; have never been to school, but I study at home. We all love to hear about Huber Peter. Please tell us more of his funny doings. We had a good laugh over his way of giving you back your door-key.

Papa has forty colonies of bees, all in good condition. I will report to you this fall, if you wish me to. LYDIA R. SMITH.
Ferndale, W. T., April 9, 1884.

A GOOD PLACE TO KEEP COMB HONEY.

Father puts the honey over the kitchen stove, and in June it is just as nice as ever. It is recommended by the neighbors as the best ever tasted. He never tried extracted honey, but comb will keep there. Mother had a swarm of bees die, and can not find out what ailed them, as they had capped brood and honey, and were packed snugly in a chaff hive. We looked the A B C book over, and did not find any thing that explained their case.

GENEIEVE HILL, age 9.
Randolph, N. Y., April 13, 1884.

Friend Geneieve, Dr. C. C. Miller recommended keeping comb honey just the way your pa does. I think if you will turn to the back part of the A B C book, near the picture of "Blasted Hopes," you will find some suggestions as to why your bees died.

EDITH GIVES US ANOTHER REMEDY FOR BEE-STINGS.

Pa said he would give me a swarm as soon as I got old enough to take care of them. He keeps his bees in the cellar in the winter. I read little Ah Sid's experience with "Melican buttel-fly" this morning, and I thought it was pretty cute. My pa uses hot water when he gets stung; he thinks it is better than any thing else. EDITH BASCOM.
Albion, Calhoun Co., Mich., March 23, 1884.

Your remedy may be a very good one, Edith; for although I thought I had tried almost every thing, I think I never tried *hot* water. If you are stung on the hand, putting it in water as hot as you can bear it might stop the pain, for it will often give almost instant relief for a bruise or a sprain, or something of that sort. If you should get stung on your nose, or near your eyes, I do not know how you could work your hot-water cure. By the way, children, I have known a hot-water bath to make one feel good-natured when cross. Did you ever hear of such a thing?

ABOUT THE BEES AND CHICKENS.

Bees are flying when days are warm. We have two stands. One swarm came off July 5, 1883; got no surplus from it, but we got 361℔. sections filled from our old one. Some are black, and some have one and two yellow stripes. I have your A B C book. Bees are in Nellis hives. We should like to buy an Italian colony, if we could get one cheap. Last spring we got a sitting of the American Seebrights, from Columbus, O., at $3.00 per sitting. They are good layers. We have five hens and one rooster, and get as many as five eggs a day. We sell them for $1.00. J. H. MONTAG, age 11.
Saxenburgh, Pa., April 22, 1884.

Friend J., you do not make it very plain about the amount of honey from the old stand. Was it 36 one-pound sections, or 361 *pound* sections? Learn to be careful in making your figures, as they may mislead one. We have had some big troubles, I tell you, about figures, or because words and figures were crowded too close together.

THE BEES AND THE FISH-POND, AND THE GERMAN CARP.

Uncle keeps bees; he does not take GLEANINGS, but his friend Mr. Stone does, so we get it in that way. Uncle has got 75 swarms of bees; he also has a fish-pond with German carp in it. They are quite large now. The pond is very pretty, but uncle was nearly a whole year making it. I received the Story of the Bible, and thought it was very nice. I am sure Huber will make a good man.

Cheviot, Ham. Co., Ohio. **FLORA HILDRETH.**

Thank you, Flora, for your description, and also for your kind words.

ANOTHER COLT THAT HAD A RIDE IN THE WAGON.

My papa has a colt that we gave a ride in a wagon. We were going to Lompoc, and the colty got tired, and papa was going to try to lift it into the wagon himself; but a man came along, and papa asked him to help, and they put him in the wagon. California wagons have high seats, and the colty could just stand under it, with his head over the dashboard. His mamma would not go on without her baby; and as she was trying to find him, she happened to look up, and saw him looking down at her. She gave a joyful whinny, and trotted on lively, looking back at him once in a while to see if her "Dicky" was all right. It made folks laugh when we got to town. The next day we carried him home the same way. Our horses like sour milk; and when papa is milking the cows, the colts bother him if he lets them in the yard, for milk. My brother has a little dog that gets so jealous if another dog is kept, that he won't eat nor look at us till mamma boxes the other dog's ears; then he makes friends with it and us. **LEWY HILTON**, age 3½.

A JUVENILE HAPPY.

I have just received my watch as a present for 10 new subscribers for GLEANINGS, and I feel like writing a little to you, to give expression. I thank you for your kindness and liberal offer. I think the juveniles should never forget you, but ever persevere in doing all the good they can for you and others, and thereby gain knowledge themselves. My watch is now hanging up over the fire-board, running nicely, and keeping time with pa's clock.

ABOUT BEES IN NORTH GEORGIA.

Pa's bees are doing very well at this time, but have been checked up by the frost. He has had no swarms yet, but have several that have entered the honey-chambers. I gave mine a honey-chamber today. I shall look anxiously for them to move up there. My hive has a young Italian queen, and her bees are large and industrious.

Mr. Root, if you know any reason for so many queens dying, please let us know. Pa has lost one-fifth of his queens since brood-raising time.

Rome, Ga., Apr. 18, 1884. **NETTIE BRYAN.**

Friend Nettie, it is hard to tell why so many queens fail in the spring, unless it is they are subject to something of the same malady as the worker-bees, which has so often been called spring dwindling. Where the bees get this disease, many of the queens are found missing, and sometimes we find them out in front of the hive.

TWO SWARMS FROM THE SAME HIVE GOING IN TOGETHER.

I live near Lake Ontario. My papa has 9 colonies of bees. He keeps them in chaff this winter. Last summer a swarm came out; we hived them, and about two hours after, we hived the second swarm. Very soon the second swarm came out and went in with the first. Was this any thing unusual?

IS RYE-FLOUR FEEDING ADVISABLE?

Is it of any account to feed rye flour to the bees at this season of the year?

EDITH A. HERSEY, age 9.

Red Creek, N. Y., Apr. 8, 1884.

It is not unusual for two swarms to go out as you state, and go together, when they are both *after*-swarms. Where several queens hatch in a hive at once, they often go out in separate bodies, and sometimes one goes a little before the other. The humming of the first swarm would be very apt to attract the others, and thus induce them to go along with them.—I think rye-flour feeding beneficial, if done judiciously; and I should say, let the bees have it whenever they will take it, unless there should be circumstances that might induce them to go out in unseasonable weather. Some seasons it has seemed detrimental; but on the whole, I think it profitable to give it to them whenever they go around picking up sawdust and other like substances, indicating they are in want of pollen.

WHERE DO THE BEES GO TO?

We have not had any swarms this year, but are looking for them every day. One of our neighbors has had 3 swarms. We have had a terrible overflow down in this part of the country, and it did some of our bees right bad. We have got some swarms of bees (if it be called a swarm) that have good queens and plenty of honey, and only about 50 bees at the largest. Can you tell me what the cause of it is? Papa thinks that they got drowned. We went down the Mississippi River a few days ago in a skiff; and coming back through the lake we saw a great many bees on the water; some were dead and some were not. We saved a few by lifting them up out of the water on our oars, and put them in the boat until they got dry, then they flew away. Do you suppose that it is something that they get off the flowers that is poison, and it kills them before they get home? or what do you think is the cause of their falling into the water? You will confer us a great favor by giving us your ideas about it, through GLEANINGS; and yet we have some as good swarms as anybody. **THOMAS C. KINCADE.**

Sterling, Chicot Co., Ark., April 8, 1884.

Friend K., I believe it is generally thought not quite so well to keep bees near large bodies of water; for if they get down into the water they will seldom get out again; but I am inclined to think in your case it was more what is called spring dwindling than the flood. When the bees have this spring dwindling they go out of the hive when the weather is too cold, and are then soon scattered around on fences, the sidewalks, and on the ground. Some of them get back to the hives, and a good many do not. If near bodies of water, and they should get chilled, and drop into the water, of course that would be the last of them. What you need is steady warm weather without high winds. Heavy winds during chilly weather are very destructive to bees in the spring. Cutting off the forest-trees has something to do with this spring dwindling.

SHORT AND SWEET.

My pa has bought some bees, but has not got them home yet. Please send me a book.

TOMMIE BRACKIN, age 12.

Town Creek, Lawrence Co., Ala., May 4, 1884.

Very good, friend Tommie. I suppose you could not very well write much of a bee-letter till your pa got the bees home. The facts you give us are no doubt new and true, even if they are not as yet very valuable.

WHAT THE DOCTOR DID FOR A DANGEROUS BEE-STING.

In answer to friend W. W. Edwards' letter about dangerous stings, I thought I would tell you about a neighbor of ours who got stung in the throat by a honey-bee, and in a few minutes he could not speak, but was in great pain, his throat swelling nearly shut. They ran for the doctor, and he boiled catnip in a coffee-pot and let him inhale the steam, and in a few minutes he was well enough. We have 20 colonies of bees in good order. We get all our bee-fixtures from you. Pa gets GLEANINGS; he says he can not do without it. I am a little girl, Uncle Amos; I am 19 years old. IDA BENNETT.

Black Lick, Ind. Co., Pa., May 5, 1884.

HOW PA GOT HIS FIRST START OF BEES.

In the summer of 1879 pa bought two stands of bees in the old-fashioned box hives from an uncle of mine. They got their start of bees when the country was first being settled up, when bees were plentiful in the woods. In January, pa went over to uncle's to get his bees, and I would say it was just about cold enough to freeze rabbits' tails off. Pa put two blankets around his two stands of bees and put them in an old spring wagon, and started for home, and I had to go with him to get them. We had about six miles to go before we reached home; but we finally got home at last, but were so cold pa could hardly walk; but he managed to get to the fire.

Well, he and I warmed well before we brought the bees to the yard. Pa said he was warm, and we would go and get the bees and locate them. So we went and got the two stands, he one and I one. He was leading the way to his present apiary; we had to go through the house, for he wanted his apiary to be on the north side of the house. He wanted me to open the doors of the house for him. On the north side of the house the ground was covered with ice; and when pa stepped down on the ice, I am sorry to say he fell about ten feet, and his stand of bees went about ten feet further. Pa rolled over about twice, and got up and looked at me, and went stamping along, chewing his tobacco. I really felt sorry for him. R. L. CLOYES, age 14.

Miles, Ky., March 6, 1884.

Well, friend R., you have told your story pretty well, and I suppose we are to infer that your pa has built up a fine apiary from these two stands, and that the swarm of bees were not seriously hurt, even if they were considerably astonished by the mishap. Does your pa still chew tobacco? If he does, there are some more smokers all ready to be sent out to tobacco-chewers, and a little book to go with them.

HOW TO MAKE WOODEN SEPARATORS.

I live at my grandpa's. He has forty-seven hives of bees; he has taken them all but 15 out of the cellar; they have all wintered well. He says that I may tell you how he makes wooden separators, and perhaps you will send me a book. He saws them from pine lumber with his Barnes saw, about 1-12 inch thick, and 1⅝ wide, and nails four of them on a wide L. frame, and they do not trouble by warping.

GRACE DOROTHY.

Blakesburgh, La., April 3, 1884.

It is a fact, Grace, that separators sawed out will keep their places very much better than the shaved ones. I should think it would be rather slow work, however, to saw them out by foot power. If I understand you, your grandpa makes each separator in two pieces. If they are nicely matched this will do no harm; but if they are not matched in the joint, it would make a seam in comb honey.

WINTERING NUCLEI, AND FLAX TOW FOR WINTER PACKING.

My father has about 130 colonies of bees. We had last winter 50 nuclei in the cellar. We have lost but two nuclei. Last summer we got from 60 colonies, 6000 lbs. of honey. My father uses flax tow for packing bees in winter. He says, it being linen it beats any other material he has ever tried for packing bees. He goes around where our neighbors raise great fields of flax, and brings home a wagon-load of tow, and spreads it out in a big ring, and tramps the shives all out with the horse, and then it is all ready for packing bees with.

ANNA QUINBY, age 12.

Edenton, Clermont Co., O., April 23, 1884.

Friend Anna, it has been generally thought pretty difficult to winter nuclei; but if your father carried through 50, with the loss of only two, he did exceedingly well. No doubt tow packing will answer an excellent purpose where it can be procured readily.

WHY DID THE BEES GO OFF?

Pa's paper and A B C book came all right. He is pleased with his book. He reads it every spare minute he's got. Last spring, 1883, he got an Italian swarm. He bought one black swarm; in the fall he had 6 and 173 lbs. of honey, one-half comb. This black swarm came out in ten days, and alighted on the fence. He put them back, and put an Italian queen with them. He had her caged up for a couple of days. He then let her loose, and the same day they went off to the woods, after they had comb honey and brood sealed over. Pa would like to know why they went off. He left his bees on summer stands, and packed them in chaff. I went to the woods to get leaves to put in little cushions for the bees for pa, and this spring they came out all right, and now they are gathering honey and lots of pollen. Cherry and plum bloom will soon be out, and we expect to get lots of honey. I like to help pa with the bees, but I go to school all the time. Pa is making lots of hives for his bees; he expects to be a bee-man. He keeps them on the south side of a cedar hedge. WALTER STONER, age 13.

Fernhill, Middlesex Co., Ont., Can., May 2, 1884.

Friend Walter, it is a little diffcult to say why bees sometimes desert and go off when they have honey and brood, and every thing they want. Your closing idea of a cedar hedge, is, I think, a pretty good one. We have just been drawing manure to put around our Norway spruces, in order to make them hurry up and form a good solid wind-break,

ALICE'S REPORT.

I have two bee-hives. I had one swarm to-day, and that made me two. We have 13. Mamma has 8, and grandma has 5. The bees feed here first on the water-elm, which opens in Feb. After the water-elm come the redbud, the common willow, and the plum. Our bees have been at work ever since Feb., when the weather was so they could get out. Papa is afraid of the bees. Sometimes they make him step around pretty briskly. We have now in bloom some beautiful roses. We have the Simplicity hive. Grandma has had two swarms this year.

ALICE ROBERTS, age 13.

Brandon, Hill Co., Texas, April 26, 1884.

A COUPLE OF LETTERS FROM WALTER AND CLARA.

We have a honey-extractor, and I help turn it; and when we take up honey, I carry in the frames. My papa used to take rotten elm to smoke the bees, but he once set a hive on fire by the sparks. We had two swarms last fall, but two died this winter.

WALTER A. SMITH, age 9.

I stayed home from school to-day, and mamma said I might write you a letter. We have 60 swarms of bees, some Italians and some blacks. Papa likes the black bees best. We have a wax-extractor, and Mr. Hunt works up our beeswax into foundation. We have sold 860 lbs. of honey, and we have 250 lbs. left, and we eat honey every day. We have a large hive that contains four swarms. We smoke the bees with cotton rags soaked in saltpeter. We have a baby that is two months old. We call him Elmer. Is my letter good? Did you say yes? Please send me Ten Nights in a Bar-Room.

CLARA L. SMITH, age 8.

Greenfield, Mich., March 10, 1884.

I guess I did say yes, friend Clara, for we sent the books some time ago, and here is your letter in print.

ANNA TELLS US HOW HER PA CIRCUMVENTED THE MICE.

We keep our bees on an east hill-side, near the creek. They are sheltered from the storm and wind by timber on the west side of them. We don't use an extractor. We get all our honey in one-pound sections. Pa thinks from 40 to 60 lbs. per colony is a very good yield for this part of the country. The mice got into four of our hives; and if pa had not seen where they got in they would have destroyed them before we knew it; but he opened up the hives the first warm day, and drove them out and killed one of the mice, and stopped up all the hives with strips of tin, nailed across the entrance so close to the bottom-board that a mouse could not get through.

ANNA B. MCGREW.

Milnersville, O., March 7, 1884.

GRACE'S STORY.

It was in the fall when we were banking the house. I stood looking out of the window, and I saw a little ball of fur on my brother's shawl. He brought it in. I took it in my hand, wondering what it could be. Carley (that's my brother's name) told me to put it under a fly-screen, in the warmth of the stove. As I stood watching it I saw it unroll its tail; pretty soon it put out one little foot, then another, and another, until four little soft silky paws came in sight. Then out came a little red nose, and there were two little black eyes looking around in wonder, thinking spring had come too soon. He had little gray ears standing upright, and in all it made a pretty little mouse—a deer-mouse, my mother told me. Then he began to be lively, playing his little tricks, trying to get out from under the screen. We fed him some bread crumbs, thinking he might be hungry. After we had played with him long enough, Carley put him out in the cold again, and he rolled himself up again, winding his tail around him like winding yarn around a ball. After a while we placed him in cotton batting and put him in a hollow tree. After two or three weeks we dug into the tree to see what had become of our strange pet. There had been a few warm days, and he had crawled out, thinking spring had surely come this time. I regret to say we have lost him entirely.

GRACE B. WIRES.

Southville, March 9, 1884.

WILL BEES WORK IN DAYLIGHT?

I am reading the children's letters. I see that Andrew Holzer, page 125, has made a mistake where he says that bees will not work in the light. Now, this is a grand mistake, for we had an observatory-hive sitting in our windows for about three months last summer, with glass on either side, and they worked as well as any bees. We could see the queen in the act of laying, and could see the young bees crawling out of the cells. I would advise all who think that bees will not work in the light, to make an observatory-hive.

J. A. SHENEMAN, age 11.

Pharisburg, Union Co., O.

Do not be in too great haste to censure, friend S. Although bees can be taught to work in the light, they often show a strong disposition to wax up apertures, and even to cover sheets of glass so as to exclude the light; so we have good reasons to think they prefer darkness to light; but I guess it is not because their deeds are evil, as it is with the human family. I am glad to know you succeeded so well with your observatory-hive.

ABOUT THE BABY OCTAVIA, ETC.

We have got Octavia's (our baby's) pictures taken. I wish you would put your baby's picture in the children's department of GLEANINGS. My papa received his goods from you yesterday. He is unpacking them to-day. This is not a good season for bees; it is too rainy and cold. Papa has 40 hives of bees. I help him all I can. I am 8 years old; brother Dale is 5, and little Octavia is 2. Mamma says I have not spelled some of the words right; but I will try to learn to spell better before I write again. Mamma told me some of the big words.

M. EDITH KEENEY.

Quercus Grove, Switz. Co., Ind., April 28, 1884.

So, Edith, your baby's name is Octavia, is it? I should be glad to have Huber's picture; but you see, there isn't anybody in the world smart enough to make a baby's picture just as nice as the baby is himself. Did you ever see a picture as nice as your baby? I am glad your mamma is taking such pains to have you learn to spell.

GEORGIA AND THE SKIPS OF BEES.

Pa has 17 skips of bees. I see they like to sip the honey from the sunflowers and other plants. I have one brother, and he has 10 skips of bees; he has just begun to keep bees. He is going to give me a skip of bees.

GEORGIA MAY WILLIAMSON.

Covert, Seneca Co., N. Y., March 17, 1884.

How funny it is, Georgia, that people have such different names for things! Where we live we say a hive of bees; and in some places they say a gum, because bees are often kept in a hollow log sawed off from a tree; and as gum-trees were often hollow, and not very apt to split, they got to calling them gums. Your people call them skips, and in some places they call them skeps. Many of our Southern friends call a hive full of bees a "*bee.*" Who can tell us any more names for a hive of bees?

OMAR'S LETTER.

I have one swarm of bees. They are in a long hive that holds 18 frames. I can put another story on my hive, and 18 more frames. Sometimes we extract the honey, and sometimes we put in sections for comb honey. The old queen lays eggs in the sections, and spoils them. The bees made lots of clover and linn honey last year. The ground was white with clover. They did not get much fall honey. We have ten swarms. One swarm ate up all their honey. Aunty put some of the poor starved bees down on the board in front of another hive. The other bees came out and fed them, then they let them go in the hive. Wasn't it funny, Mr. Root? Aunty has to feed four stands. She puts molasses in the frames, made of white sugar. My book says the queen has twelve bees to wait on her; is it so?

The maple-blossoms have been out some time. The bees have been gathering honey from them, when it was warm enough. It has not been very warm yet. The willows are blossomed.

I have four new hives. Uncle Virgil got them of you last summer. OMAR CLOVER.

Pierceton, Md.

Friend Omar, I guess the papers don't understand bees quite as well as you and I do, or they wouldn't say the queen has *twelve* bees to wait on her. The queen has a sort of body-guard, or retinue, it is true; but even that is often exaggerated, for it may be two or three bees, or it may be a dozen or more, and I don't suppose the same bees follow her around at all, for they are constantly changing about, and those that feed and caress her one minute will probably be off doing something else the next.

SEVERAL SUGGESTIONS FROM A JUVENILE.

I will tell you what I did with the watch I got of you. I gave it for 3 stands of bees in old box hives. My father put them in L. hives, and they swarmed once apiece. I anticipate getting a large crop of honey. Father had 3 swarms of bees—one the 18th and 2 this morning. He is quite busy now with his bees. They are all in good condition.

ANOTHER HIVING-BOX.

Father has a frame he holds up when they are swarming. It holds just an L. frame. He puts the frame of comb in and holds up, and all alight on it, then he shakes them in front of the hive, and they all run in. The way my father moves bees from one locality to another, he puts an empty frame between every one that is full, then puts in a wedge, and they are firm as you please, and there are no bees smashed.

ANOTHER PLAN OF INTRODUCING QUEENS ALSO.

My father is quite jubilant over his success in introducing queens. He dips the queen in fine flour, and lets her loose; she runs in, and they clean her off, and she is acknowledged their sovereign; that is the way he introduces all his queens—never loses any in that way. My father has nearly 100 stands of bees, all in Langstroth hives. He intends to send to you for some honey-pails after a while. I have a little brother and sister. It would do you good to see them eat honey. SALADO SIMANTON.

Brookston, Lamar Co., Tex., Apr. 28, 1884.

The idea of having a frame of brood in the swarming-box has been several times suggested, friend S. It seems to me as if it were unnecessary trouble, and not really essential. I never knew bees refuse to go into the swarming-box if it is held up against the cluster, nor have I ever heard of their leaving it after they once go in.—Your father's plan of introducing queens is certainly a very novel one; but is he really sure that the flour has any effect either way? It may be that bees would not sting a queen as soon if she is covered with flour, although I am inclined to doubt it a little. Was not his success owing to the fact that queens will, a great part of the time, be well received without any caging, daubing with honey, or any thing of the kind?

BERTHA'S KIND LETTER.

We began the spring of 1883 with 13 colonies, and increased them to 34. We lost two of them in wintering. We got about 35 lbs. of honey per colony, spring count. We disposed of it at 12½ cts. per lb.; we sold several stands at a good price. We had 23 queens laying in Feb. How can we extract honey now? Our bees have some surplus honey, which we want to take out. We have not much clover here. The bees get most of their honey from lucerne and wild flowers. The snow is quite deep here yet. We have a small yellow flower here; it blooms as soon as the snow is off. It furnishes the bees with pollen about 6 weeks. We have had goods from you several times; they were O. K., especially the extractor. It is the best one I have seen, and everybody says it is a wonder. We all think your smoker is excellent. Your A B C has taught us more about bees than any man or any other book we have seen. I do not know how we could get along without GLEANINGS.

IS SWELLING OF THE HANDS OR FACE CAUSED BY SIMPLY WORKING AMONG BEES?

Father has looked at the bees twice this spring, and his face swelled up both times, and the bees did not sting him. Was it the smoke of the cotton rags that made it? Can you give us any light on the subject? BERTHA LARSON.

Fairview, Utah, March 17, 1884.

Friend Bertha, you have struck upon a matter that has puzzled a good many as well as yourself. It has been suggested, that one may be so sensitive to the poison of the bee-sting that he will feel the effects of it from the air. I know bees often put out their stings with a drop of poison on it. Well, it is supposed that this poison is volatile, and passes off in the air, enough to produce the effect you have mentioned. I have sometimes thought I could feel it in my eyes; and the fact you give affords another link in the chain of evidence. Perhaps it was this that caused the swelling; but for all that, I should apprehend no bad consequences to follow. The poison of the bee-sting is rapidly coming into use as a valuable agent in medicine.

OUR HOMES.

Owe no man any thing, but to love one another; for he that loveth another hath fulfilled the law.—ROM. 13: 8.

I HAVE often wanted to talk on this subject of being in debt, or getting in debt, if you choose; but, dear friends, I have been a little afraid to undertake it. Do you know why I am afraid? Well, I am afraid I should not be able to so prepare myself that I should be entirely free from prejudice, that I could speak in an unbiased way. I am interested, as it were, and perhaps on that account I could not handle the subject in a way that would do the good it might if it came from a minister, or some one who is not in active business as I am. May be the feeling has been a wrong one, and that I am am just the one to speak, because I have had such great and varied experience in this matter of debt and credit. I have prayed that God might purify my heart, and free me from uncharitableness or pride, or any thing else that might stand in the way of making this Home paper a helpful one; and as I start out, I breathe again that little prayer now: "Lord, help thy servant, that he may, especially in this talk to-day, shadow forth thine image, and in his own feeble way thy great love to all humanity, and may he have thy love toward all his fellow-men."

There are some who people think it wrong to get into debt. I remember a good old gentleman who gave me some very excellent advice once. He had got to be quite a rich man, and yet had so persistently paid cash down for every thing, that he rarely if ever went to sleep at night with the feeling that he owed any man a copper. At one time when the grocer could not make change, he said he took a pound of tea without paying for it. The thought so troubled him during the night, he went on foot several miles the next morning just to discharge the debt, and then his conscience was at ease again. There was something a little inconsistent with this good old friend, however, for he made a business of loaning money to other people. In fact, I went to see him with my father, to borrow some money to start in business. He advised me to go back home and start in business as best I could, without borrowing money. I did so, and I thank him to-day for his advice just at that crisis. I soon got in debt, however, for all that; but it was a debt for goods, and not for borrowed money. As time passed on I found I could buy to better advantage by having ready cash. Since then I have been paying interest on borrowed money almost all my life, and I think it is in many respects a good thing to do. Many times I have taken money that people were very anxious to let out. Very many times I borrowed money from widows who had families to support, and I think I did them a kindness by paying them interest promptly. I suppose you all agree to what I have been saying. If so, where is the evil, if evil there is, in getting in debt?

Many of our sins and weaknesses are of a class where there are extremes both ways. One may talk about his neighbors too much, and one may talk about them not enough; one may be too suspicious of his fellow-men, and he may go to the other extreme and be too confiding on short acquaintance. Is it not so about getting in debt? If so, where is the dividing line? where do the greatest number of people err—in being too much afraid of owing somebody fifty cents over night, like the friend of whom I have told you, or do they err in borrowing, or getting in debt when it would have been much better to have gone without the thing they had not the money to pay for? We err oftenest in buying that which we do not need. Is it not so, friends? Especially do young people err in this direction. If you offer a boy or a girl credit without stint, a bad use will almost always be made of it; and, indeed, you may do them a great harm by lending them money they are very anxious to borrow, or by giving way to their importunities to let them have something on credit. Most of us can look back and remember how greatly hurt we were when somebody refused to trust us in that way; but for all that, it is likely the person who refused did us a great kindness.

In our recent Sunday-school lesson, Paul tells us how a Christian should behave himself. He says he suffers long, and is kind; envies not; is not puffed up; does not behave badly; is not easily provoked; bears all things; believes all things; hopes all things; and endures all things. We admire those beautiful verses, and all the world bows down in assent to their truthfulness as well as beauty. How ought a Christian to do in regard to this matter of debt and credit? Our opening text says you should owe no man any thing but love one to another, and a Christian should surely have love to those he does business with, no matter how they behave. When he is lending or borrowing, the great animating object of his love should be to do good. If by borrowing he can do good, borrow; if by lending he can do good, lend; but he should always beware of doing any thing that may do harm, even though he be importuned never so much, and even though he would rather give the money over and over rather than be obliged to refuse.

I have, during my business experience, known many times what it was to need money badly; I have racked my brain, and scraped up my available effects; I have sold property at a sacrifice, and I have many times prayed that God would help me to secure the amount I needed to pay something I was owing, so I know what it is to be in a strait for money. I have also refused to let some of my valued friends have money, or I have refused to help get it for them when I thought I had good reasons for thinking it would do them harm instead of good. During the past few years I have tried to do all this, and yet avoid having anybody say or even think I was a poor specimen of a Christian because I performed these difficult tasks in a poor way. How shall we as Christians manage with wisdom this essential element in business? I will tell you, friends, a rule I have been slowly forming for my rule of conduct in these matters, especially in this trying matter of borrowing money, or of buying things to be paid for at some future time, which amounts to the same thing. My little rule has been this: To tell those whom I was owing *that I would get it for them whenever they told me they wanted it;* and to carry this out, of course I must use such care and economy, and such foresight as well, that there would never be a chance, or that there could not *well* be a chance, of my getting where I should fail in doing this.

A few days ago an old friend came into our factory and looked through it admiringly. He is a man who has been a minister of the gospel the most of his life. After looking around for some time he made the following remark:

"Mr. Root, this is all beautiful as well as wonderful; but it gives one a feeling of sadness as well as pleasure."

"Why so?" I asked in a little surprise.

"Because," replied he, "such large establishments are sure to fail and become bankrupt, sooner or later."

I confess, the speech cut me a little at first; but for all that, I guess it did me good. I replied,—

"My friend, do you really mean that a man who is an earnest Christian fails in business and becomes bankrupt?"

"Why, it seems they do sometimes, sooner or later."

"But, if you will excuse me, is it not because they depart from their Christianity and lose their religion?"

He was, perhaps, a little surprised at my earnestness, and replied with a smile, "May be so," and left me.

I have thought of this very often since, friends. Why did I feel hurt or indignant at the remark he made? And if good Christian men have really drifted out of the way, and got into trouble by having large property on their hands, why should I expect to be an exception? I know I am on delicate grounds here, friends, and I know I am laying myself open to charges that have been made a great many times; but all my old tried friends will understand me, and make allowance for what weakness they may see in what I have been saying. The question still rings in my ears, "Has a *Christian* any right to fail in business?" It just now occurs to me that I replied to the friend of whom I have been speaking, something to this effect:

"A man can never fail in business, and never become bankrupt, so long as he is always prepared to pay all he owes in the world to anybody, whenever they ask for it, or on very short notice."

And this brings me back to my little rule of action in regard to the matter of debt and credit. It has been this: To be prepared at all times to hand over all I was owing to anybody whenever it is asked for, or when they seemed to want it badly; or, to put it in another way, I determined that the world should know that they could always have what money or any thing else I was owing them whenever they wanted it. You may urge, that there are times when circumstances make it very difficult or absolutely impossible to do this. My reply is, that you should take into consideration circumstances before you get in debt; that you should determine beforehand to go without things rather than incur risks; and when you have tried repeatedly to borrow money, and your friends do not seem to want to lend you willingly, take it for granted that God thinks it best that you should not have it—or, if you choose to put it in another way, decide in your own mind it is best for you not to have it, and go without it, no matter what the circumstances may be. To follow out the little rule I have given you, of course you will need to have resources at hand of some kind. These resources should be planned so as to meet any contingency. Perhaps I should define my position here by saying, that when you borrow money for a certain length of time you do not owe it until that time has expired; and if the one to whom you owe it should want it before that time, if he can persuade you to pay it sooner, well and good; but, of course, he has no right to demand it sooner than the time agreed upon.

An old lawyer once made the remark when a circle of people were severely criticising an absent brother, "Everybody ought to do all he *agrees* to do; and when he has done this, he is a pretty good man, and you have no right to find fault with him or abuse him."

I have often thought of this, and it is a pretty good rule, I believe. We all have rights. We have the privilege in this free country of ours of doing what we please with our own property, or with what we have honestly earned; but every one who professes to be a Christian, or even a gentleman, should try very hard to keep all his promises good. What is to be done, then, when one *can't* keep his promises? Why, get a release, of course. One can ordinarily get a release from a promise by presenting a good reason why he should be released. But, of course, he should make application for release at the very earliest moment possible. I once heard another lawyer friend of mine make the remark, that to get an honorable release from a promise is virtually *keeping* a promise.

Now, in this matter of debt and credit it were well to keep the above points in mind. Suppose you owe money, and it is demanded of you, and you can not pay it; what is to be done? I am afraid we are in too much of a hurry to use this word *can't.* Before telling anybody that I could not pay money I honestly owed, I would make some pretty great sacrifice. I would sell property at half its value; in fact, I have done this already, thinking it better to lose my property than to lose my good name. A great many times, after having told the one I owed what I was going to do in order to pay him, he has often relented, and told me not to do so badly as that. Of course, if you can get such a release as that, all right; for the whole point at issue, friends, is to conduct yourself in such a way that you shall not dishonor the name of Christ, whom you profess to follow, and that you shall not dishonor your own name by doing such things, or have any one feel that you are not as good as your word, and are not to be relied upon. I tell you, friends, this is a very great thing in this world, to earn a reputation of being good in spirit as well as letter. What I mean is, good in business circles; *good* for all you promise, or *good* for all you undertake.

A good many years ago a young man came into my store with his mother, and wanted to buy a watch. I did not know him, but I knew his father and mother to be good Christian people. The watch was never paid for. In fact, he turned out badly, and failed to pay a great many of his good friends. His relatives all expressed sorrow for the course he had taken, and there the matter dropped. Quite a number of years afterward I heard this man was converted; I heard, also, that he had become an active, working Christian; and finally I met him at a Sabbath-school convention. He was to deliver an address, or take some part in the proceedings, as I was also. I thought I had a good deal of grace, and perhaps an unusual degree of charity for trying occasions; but yet, dear friends, that man's profession of Christianity, while he did not pay his debts, or say a word to anybody he was owing in regard to them, was almost more than I could stand. It threw a chill and damper over me; and although I knew it was wrong, I had one of the hardest battles to fight I have ever had to try to remember that it was my duty to keep my heart right before God, no matter what this man did. I have met him frequently, and talked pleasantly with him; but some way I can not make it harmonize. You may say I should have gone to him and talked the matter over with him. I presume I should; and I have decided I had better do so; and yet I am afraid I shall not be able to discuss the matter in a Christian-like spirit. That old little prayer wells up while I think of it—"Lord, help."

I have not told this little incident because I wanted to talk about anybody, or find fault; in fact, I hope the friend of whom I have been speaking will not see this, because I do not want to hurt his feelings uselessly; but it brings up so vividly this point in the Christian lives of all of us that I have chosen it. Do not, I pray you, feel hard toward those who profess to love the Lord, and yet can not pay their debts, or who think they *can not* pay, if you choose; but let us rather look into our own hearts and see if there is any thing in our lives in this matter of debt and credit that may stumble any one. Let us resolve that the foremost thing of our lives *shall* be to seek first the kingdom of God and his righteousness; and if it shall so happen that one of the readiest ways of bringing men into the kingdom is to see that we "owe no man any thing but love one to another," let us set about doing it with all our might and main.

A new convert should be a great power in the community in which he lives, in bringing souls to Christ, and he should be able to feel that he can approach every acquaintance on this subject. But, dear friends, how *can* he do this with the consciousness in his heart that there are those whom he does not dare to meet, and whom he does not dare look in the face? Did you ever realize how it cripples one's power of doing good by being obliged to hang down his head when he passes certain individuals—or, if he does not hang down his head, to feel in his heart that he ought to do so? The spirit of Christ bids men to be open, fearless, and frank; and nothing so effectually quenches this spirit, or chills or drives it away, as these things of which I have been speaking.

But, what shall a new convert do, you may ask, if he finds himself in this predicament? Suppose he has been wild, and "sowed wild oats," as the expression goes—has deliberately incurred debt here and there until it is almost hopeless for him to think of paying it all. He has confessed his sins to his Savior; has renounced the old life, and started in the new; what shall he do about these debts? There is an old saying, that "there is no use crying over spilled milk;" but I do not quite believe that saying; I do believe it does us good to cry hard over spilled milk, or over things that seem almost as hopeless of recovery as milk poured out on the ground. Whenever I meet a case of this kind, or talk with one who has started for a better life, how often I feel like saying, "Why, oh why, my dear friend, did you push ahead in this foolhardy way, buying things you did not want, or that you could have got along without, very well? Why did you, with your eyes wide open, make this task so hopeless of getting back on to solid ground, where every honest man should stand?"

Now, then, as it is *already* done, what shall he do about it? The first thing to do is to go to every one he owes, no matter how many there be, or how large the amount; put it down in a book, or put it into notes, and take full account of both principal and interest. Do not ask them to "throw off" some, but treat the whole matter as if you were sound and straight, and able to pay all; get it all right before you, in correct business shape; then with the burden in black and white right before your eyes, make it a subject of prayer that God may help you; and as fast as you can, pay each one a little. A blessing seems to follow paying a little of your indebtedness, even though the amount be small; and a blessing seems to follow in undergoing privations, and in denying yourselves when it is done for the sake of those you owe, or for Christ's sake, if you please.

People often excuse themselves for not paying debts, by saying they have done the best they could; and when a man has done the best he can, he can not do any more. I have got to feel, somehow, that this plea we are often led to make, "I am doing the very best I can," is of itself an indication of a wrong state of heart. In one sense we are *never* doing the best we can. When our souls are enlightened by the influence of the Holy Spirit, and we sit down and calmly contemplate these past lives of ours, it seems an awful falsehood to say we have done the best we could. We have wasted time when we might have been earning money; we have discussed and argued when we might have been saving souls; we have foolishly wasted money for things we could have easily gone without; we have dishonored our Savior when we might have been saving our fellow-men. Where one has really done great things, compared with average lives, in Christ's kingdom, he has never any disposition to say he has done the best he could, but, rather,—

> So likewise ye, when ye shall have done all those things which are commanded you, say, We are unprofitable servants: we have done that which was our duty to do.—LUKE 17: 10.

Satan is sure to get hold of a man who allows debt to run and accumulate. Just notice how quickly the man who owes begins to talk hard about the one he is owing, and accuses him of underhanded and mean ways of doing. You have probably heard the expression, "If he had used me like a man I would have paid him every cent of it as soon as I could; but now after the way he has acted, I won't pay him till I get ready." And this, too, to one who has done him a kindness and a favor!

A great many plead sickness as a reason for not keeping promises or paying bills that ought to be paid. Please do not think me uncharitable here, dear friends; but it has often seemed to me that a man's family is more apt to get sick when he does not pay his bills. In fact, he is more apt to have trouble of all kinds. It is the man who is as good as his word year in and year out who seems to be blest in all he undertakes. Many people, Christian people even, seem to think they are not under obligations to pay borrowed money as if it were something else that was borrowed, or that a bill they owe the grocer or the butcher is different from a tool or vehicle they borrowed, or any other piece of property. Let us take a little illustration:

Your neighbor has a nice new wheelbarrow which he has bought because he needed one and wanted it almost every day. You come to him some time and say, "Mr. A., we have got a big lot of wood to get from the street into the woodhouse, and it would save us very much hard back-breaking fatigue if you could just manage to spare the wheelbarrow a little. We will be very careful of it, and not injure or break it." Suppose your neighbor, because he wishes to be accommodating, puts himself out a little to let you have it. When you took it you honestly intended to do exactly as you agreed. But suppose it should transpire that that wheelbarrow was not only kept many days, but weeks, months, and years, and that a neighborhood quarrel came up almost every time Mr. A. spoke of wanting to have it again. Suppose you talked about him in your own family, and abused him, and that, too, while you are keeping the wheelbarrow, and using it every day. Suppose, too, that when he suggested that, if you really could not spare it, to let it be sent back home again, you should pay a moderate rent for it, and you should indignantly decline to pay a copper in the way of rent, but still hold on to the wheelbarrow. You say the case is preposterous. No one ever heard of a neighbor so unreasonable and mean. Perhaps not. But suppose we substitute, in place of the wheelbarrow, ten dollars' worth of meat or ten dollars' worth of groceries. When you bought the meat or groceries, you asked to be accommodated until Saturday night. Saturday night came, and you could not pay it. The longer you put it off, the more inconvenient it seemed to be to pay it; and finally, because you are owing this little bill, you trade at some other grocery or butcher shop, where they do not trust at all. Is the case so very much better than with the wheelbarrow? Your neighbor finally asks if you can not pay interest. You tell him you think if he gets the principal he ought to be satisfied, and yet you have had the use of the money all these years; in fact, he could not keep you from having the use of it, because you said you could not get around to pay it.

Sometimes discussions come up as to what interest should be paid. The butcher or the baker has borrowed money at the bank to go on with business, and has been obliged to pay eight per cent. May be he has paid this interest, or more, during all the years your account has been running; but yet if he should think you ought to pay him the same interest he has paid on the money he had borrowed, you would call him hard names; and yet very likely *his* family has been sick too, as well as yours.

I believe it is usually considered that every man has the privilege of charging what he thinks proper for what he has to sell. If he charges too much, people won't trade with him, and he is the loser. If we do not like what people ask for things, we don't buy of them. If we do buy of them, ought we not to pay their prices? If it is really out of our power to pay money we owe, ought we not, out of courtesy to the kind friend who has furnished it for us, be willing to accede to any thing he may ask, and thank him even then? Have we any more right to take any one's money and keep it when he wants it than we have to take his wheelbarrow and keep it when he wants it? The wheelbarrow could be sent back under almost any circumstances one can imagine; that is, you could carry your wood, or whatever else you had to move, instead of wheeling it, after some fashion or other, and you could *not* get along without the money. Well, friends, I admit there are circumstances under which one can not get along without money. There is sickness in your family, and you must have the doctor's services. A man who wouldn't go for the doctor because he had not the money to pay him, would be almost guilty of murder; therefore you must go in debt. It is right to go in debt; but granting this, have you any right to say that it is the doctor's business to furnish the medicine and advice without pay, because you hadn't the money and couldn't get it?

Perhaps what I am going to say now seems hard; but after the troubles I have seen, and among Christian people too, in regard to this matter of debt and credit, it seems to me we need a pretty vigorous stirring-up, if any thing can stir us up. If it is not the doctor's business to lose, who should lose it? My friend, if you are doing the best you can, and *can not* support yourself and family, you have no right to ask the doctor to support you, nor the grocer, nor the butcher. The plain, obvious thing to do, as it seems to me, is to divide it around among your townspeople; in other words, state your circumstances plainly, and let the expense be borne equally, instead of thrown all upon one person. Many difficulties come up in business, and we shift the responsibility off from our shoulders and let it pass. Some little time ago, you may remember, I told you that a man wanted a smoker because he saw his neighbor using one; and finally he handed the neighbor 75 cents to send to me. The money never reached us, and on being told the circumstances I sent the smoker, asking the one who ordered it to explain matters, and get his friend to send me half price if he could. The friend said he had paid for the smoker once; that he did not agree to take any chances of loss by mail, and that he would not pay for it again. The man who sent for the smoker said he took the money handed to him, and sent it to me as an accommodation. He made no profit whatever in the transaction, and therefore *he* should not stand any of the loss. This reasoning is very fair and reasonable on both sides; but for all that, I had furnished the smoker and had not received a cent by way of equivalent. People often refuse to pay debts on just such reasoning, and yet the one who furnished the goods is out of pocket; and out of pocket, too, as it often happens, as a reward for having an accommodating spirit, and being sorry for the mishaps of his neighbors.

I presume the greater part of you who have taken the trouble to read this paper today are followers of the Savior; you love the Bible and its teachings; you are trying to seek first the kingdom of God and his righteousness; you recognize that "the earth is the Lord's and the fullness thereof," and that we are but stewards, and have our possessions only in trust. I know how prone we are to forget that it is only trust, and that we have no right to get an idea that any thing belongs to us in any sense — that we can do as we please with it, whether God approves or not. Keeping this in view, how careful ought we to be to do nothing that might stumble any one whom we would lead to Christ! In our prayer-meetings and Sabbath-schools we profess to be deeply anxious to see all mankind come in, friends and enemies alike—especially the enemies—for our Master has particularly commanded us to love them and pray for them. To further God's work we are desirous of living "at peace with all men, so far as in us lieth." Friends, how can we live at peace with all men when we have — shall we say borrowed their wheelbarrows and kept them for our own use, refusing to pay rent or return the borrowed property? I have often thought it was a kind of disease that people fall into, for we find professors of religion, and members of churches, who do these things, and do not seem to be very much troubled about it either. No doubt they would be troubled if they kept a wheelbarrow so long; but they keep money until they have almost forgotten they owed it, and perhaps finally declare outright they do not owe it, and never did. Of course, a great part of these troubles come up by leaving things at loose ends; time passes, and they are "kind o' forgotten about." The one who lent, suffers, as a matter of course, more than the one who made him suffer; and when the matter is brought up, there is disagreement and uncharitable feelings. My friend, is there any thing you can do in your neighborhood in this line? Are you in any way to blame, even a little, for the cause of Christ being hindered in your own community? Would it not be well to read over our little text, and consider it again in all its bearings?

Owe no man any thing, but love one to another.

TOBACCO COLUMN.

HEADED THIS TIME BY A JUVENILE ONLY 10 YEARS OF AGE.

MR. ROOT:—I am a little orphan boy ten years old. Ma and pa are dead. My brothers and sisters are in Arkansas. I live with uncle Bailey. He takes GLEANINGS. I was taught to chew tobacco when but a babe. I have quit, and will not take another chew. Will you please send me a smoker? Uncle Bailey keeps bees. He says if you send the smoker he will give me a stand. Then I will take GLEANINGS.

Brinkley, Tenn. JASPER GRIFFIN.

I am very glad, Jasper, that you have decided to stop where you are. The effect of tobacco on a boy of your age would probably send a blight through your whole life. If you give it up now, and take care of yourself, you may perhaps outgrow the ill effects it may have had. We gladly send you a smoker, to remind you of your promise whenever you see it.

On the first of January I quit the use of tobacco, having used it 38 years. I claim the smoker free.

Knob Noster, Mo., March 6, 1884. I. WAMPLE.

I have quit smoking tobacco, and please send me a Clark's smoker; and if I resume, I will pay you for it. I have a good section for my bees. I have not lost any yet. JAMES C. SPEARS.

Rogersville, Ten., Feb. 5, 1884.

I read GLEANINGS with pleasure, and in it I read a good many letters about folks using tobacco. Some have quit it, some quit awhile, and then commence it again. I have used it myself in smoking and chewing; but by the grace and help of God I quit the use of it about 8 or 10 years ago, and believe that that grace is sufficient to keep me from using it any more, and keep me from all other vice, if I continue in trusting in him, and ask him faithfully to help me. MOSES BRECHBIEL.

Newburg, Tenn., Feb. 14, 1884.

BREAKING THE CHAINS OF BONDAGE.

For three years I have been a reader of GLEANINGS. In that time I have been highly amused at the varied experiences in the Tobacco Column. Very likely my experience would be quite so to others. Some 35 years ago it was my misfortune to learn, among other vices, the use of tobacco—habits that even now bring the blush of shame to my cheek. Over fifteen years ago I was enabled, through God, to quit that which would intoxicate, and make a man a fool; but, like many others, I reserved the right to smoke and chew. Oh what a blunder we commit in this! what blessings we deprive ourselves of! Well, sir, I have given tobacco the shake, and I am determined to be a slave no longer. May God help many more to break the fetters that bind them, that they may be free also! WM. BATTLE.

Blairsville, Indiana Co., Pa.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, MAY 15, 1884.

> Who shall ascend into the hill of the Lord? or who shall stand in his holy place? He that hath clean hands, and a pure heart; who hath not lifted up his soul into vanity, nor sworn deceitfully.—PSALM 24: 3, 4.

WE will pay 10c each for the January GLEANINGS (not JUVENILE) for 1883.

THIS number is printed entirely from new type. I thought perhaps I had better tell you, as you might not have noticed it otherwise.

E. S. MILLER & SON, Dryden, Mich., wish us to give notice that they can fill no more orders at present, as their stock and factory have been burned by fire. We trust they are insured, that they may be ready for business soon.

DRONE COMB FOR BEE-FEEDERS.

FRIEND J. E. Stanley, Wyoming, N. Y., makes a feeder of a piece of drone comb fitted in the bottom of a shallow box. The hole is made through in the center of the piece of comb, and through the box also, and the bees are to come up through this hole. Drone comb is better than worker, inasmuch as the syrup goes down into the cells much easier. I have often used a drone comb for feeding, by simply pouring the syrup into the cells on both sides, and then hanging up in the hive. The objection is, that the queen will often fill it with eggs after the bees take the feed out.

DIPPING-BOARDS OF PINE.

FRIEND JONES gave us a great many new kinks while here, and one was the above. Now, we used pine for dipping-boards a good many years ago, and thought we had discovered that some harder wood was a great deal better. The reason was, we did not make our pine boards thick enough, and we did not have them entirely free from knots. These we have now are full ⅜ thick, and without a trace of a knot or blemish in them; and if kept soaked with water, we find they make the most perfect sheets of any thing we have ever tried. Please try it, you who are making foundation.

SEED OF THE SPIDER PLANT.

WE are out of the spider-plant seeds, and do not know where to get any, and yet a good many of the friends want some. If you have any, and will send it to us by mail, we will pay you at the rate of $2.00 a pound for it. Would it not be a good idea for the boys and girls to set to work and save some this season? The seed is easily gathered, but it needs to be done every day, or every two or three days. Just grab hold of the pods when they look ripe, and if they shell out they are all right. If they do not, wait until you come around next time. Where there is a good patch, a little girl will gather a pail full in three or four hours (provided the pail is not large).

GRASS AND WEEDS AROUND THE ENTRANCES.

IF you are annoyed in this manner, sprinkle a handful of salt around where you do not want the grass and weeds, and they will very quickly die, and stay dead. Half a bushel of salt will go over a pretty good-sized apiary; and even if they need another dose after a while, we begin to think it is about the cheapest way to keep their little dooryards clean. Do not have the little fellows spend more time dodging around obstructions than it takes to suck the honey out of the apple-blossoms.

HYBRID QUEENS WANTED.

A MONTH ago I told you why untested queens are more desirable than tested, and gave that as a reason why orders were probably so many for untested queens. Within the last few weeks we have been surprised to find that there is a wonderful call for hybrid queens. We had decided not to purchase these this season; but a friend has just sent for 40 hybrid queens with half a pound of bees with each, and we have had many other orders. To tell the truth, I do not much blame the friends, for we get almost if not quite as much honey from hybrids as from full-blood Italians. Until further notice we will pay 90 cts. for untested queens, and half as much for hybrids.

REVISED PRICES OF NOTE, LETTER, AND STATEMENT HEADS.

THERE has been so much of a call for GLEANINGS paper, as mentioned in a recent editorial, that we shall be obliged to make a new schedule of prices. The size generally preferred is 5¼ by 9 inches. There are 300 of these in a pound. We furnish the paper plain for 20 cts. per lb., as we have told you; 10 lbs. for $1.80; 100 lbs. for $15.00. You will notice, that even by the single pound you get 15 sheets of paper for a penny. Now, we rule this paper by means of the printing-press, as I have told you; and while we are printing the ruling on it we can just as well print the heading or business card. But we can not very well set up the type for any particular job for less than about 50 cts. After the type is once up, we will furnish you 100 sheets of paper for 50 cts., or 500 for $1.00. Thus you see you get the last 400 as cheap as you get the first 100. Now, if you will take 10 lbs. of paper, which will be 3000 sheets, we will furnish it already printed for $2.50. This latter, you see, will give you 12 printed sheets for a penny. Who is there among us who can not afford to have his name and address, INCLUDING COUNTY, printed on his writing-paper?

PUTTING TWO OR MORE ADDRESSES ON YOUR LETTERS.

ONE of the greatest troubles in business, as we have so often told you, is to find out where folks live, and where they want their goods sent to. Many times orders are sent us from some other town or postoffice than where the party who makes the order lives. In that case they head the letter where they are at the time of writing. Another address is given at the bottom of the letter, and no one is sure which of the two is right. Now, friends, why not, when writing, use only one address? It is not uncommon to have three, and the difficulty may not be discovered until the goods are packed and ready for shipment, and just where shall they go? Delays are oftentimes dangerous; and when we take the risk of guessing as the only alternative, the writer writes back and suggests some fact that did not occur to our over-worked clerks, and perhaps we have to stand the loss. Now, why not cut short all this confusion by being careful to mention only the place where you wish your things sent, and no other? If your postoffice and express office are different, of course it can not be helped; but please do be careful to mention it distinctly. Why not have it printed right on your stationery?

DELAYS ON ORDERS.

OUR business at present is perhaps larger than ever known before in the month of May, or, for that matter, in any other month. Orders by mail, however, go off promptly the day they are received, almost without exception. The same can be said of express; and in regard to freight, we have a great supply of every thing that I now think of, unless it is sections. On these there is necessarily some delay. Several have complained pretty severely because we are unable to tell what the delay will be. The trouble is, our packing-room is constantly one great whirl and uproar; and to keep our small army of packers busy, one order is often dropped and another taken up, on account of circumstances and conditions hard to explain here; and the order we at one time thought would have to wait a week, may, by a combination of circumstances, be put on the train within an hour; and sometimes, I am sorry to say, *vice versa*. Come and take a look at us, and you can understand it better. If you object to such a way of doing, you can have your money back by first mail any time you say so. I am very, very sorry indeed, friends, that we are not even yet able to take every order just as soon as it is received, during these busy honey months. But as our business still increases faster than our facilities, at certain seasons of the year, it happens as I have told you. Queens and bees go almost by return mail or express, although we have been hindered on some large orders by too small a supply of untested queens. Our apiary is now pretty close on to 300 full strong colonies, from which to draw bees and brood for filling orders.

SECTION BOXES.

As usual at this season of the year, there is a great clamor for honey-boxes, and they all want them right right off. Our basswood is now in pretty nice order, and we are turning out a good many thousand daily, for our machinery is now in operation from four in the morning till seven at night. We would run it all night too were it not for the extra insurance incurred. Now, while doing our utmost during this fearful rush to accommodate all as fast as possible, a great many, I feel sure, are borrowing trouble before there is any need of it. This is indicated by the number of letters we get at this season, asking when to put on the honey-boxes. A few days ago a man drove a good many miles for some sections; said he must have them at once. When asked to explain, he said his hives were so full of bees they were all clustering out, and he wanted to put on the sections so they would have room to stay inside. This was before fruit-trees of any kind were in bloom. Now, friends, there are very few of you who will have any use for sections before white clover is in bloom, and it will be a damage to your bees to have the boxes on several weeks before they will have any honey to put into them. When the combs are all filled below, and clover honey is coming in at such a rate that the brood-nest is being crowded, then the sections should go on, but not till then.

REMINDERY.

Honey from apple-blossoms is very rarely obtained in such quantities that the brood-nest won't hold it; and rather than put in the sections I would extract a comb or two, or, better still, take out some full combs and replace them with empty ones; for during the interval between fruit-blossoms and white clover they will almost always need these combs back again. If any thing should happen that your bees do not get abundance of stores during fruit-bloom, you will have to feed before clover comes. This feeding at this point is of the utmost importance. A good many colonies will manage to starve through this interval, even though they do not die outright, but it cripples and hurts them greatly. Oftentimes at this season we see a little honey at night, but not a drop to be found anywhere in the morning. This is a bad state of affairs, and I would by all means supply the deficiency by feeding. Sugar syrup, or maple sugar laid on the top of the frames, or a poor grade of honey, will keep them going nicely; and if followed up judiciously may cause swarms to come out, even before the white-clover honey comes. New swarms especially need to be fed during this interval, for they often come out during fruit-bloom and suffer greatly, even if they do not starve outright, unless they are watched and fed just at the proper time.

CONVENTION NOTICES.

NOTICE TO BEE-KEEPERS.

Under a resolution adopted at the last meeting, an extra session of the North-Eastern Kentucky Bee-Keepers' Association is called to meet in the city of Covington, Ky., on Saturday, May 17, 1884, at 9 o'clock A.M., for the purpose of transacting such business as may come before it. It is hoped there will be a full attendance of the bee-keepers of North-Eastern Kentucky. Membership fee, 50 cts.

ADIE O. ROBERTSON,
Chairman Executive Committee.

The Mahoning Valley Bee-Keepers' Association will meet at Newton Falls, O., on June 6, 1884. Mr. Hammon and Mr. Page will read some very interesting essays on the summer management of an apiary. E. W. TURNER, Sec.

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Recent valuable improvements in our machinery enable us to make bottom prices. Our foundation is unexcelled by any made in the United States. *Orders filled in rotation.* GENERAL SUPPLIES.
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This last point a specialty. No bees by the pound, no nuclei; no full colonies for sale. Caged queens by mail at rates given in A. I. Root's price list.

Address **Dr. J. A. GUNN,**
9 14db **Casky, Christian Co., Ky.**

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HIVES. 1884. HIVES.

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OLIVET, : EATON CO., : MICH.

BEE-KEEPERS! I will sell COMB FOUNDATION at 50c per lb., for brood, and 55c for light. All made of refined wax. Send for samples. Supplies of all kinds kept on hand.
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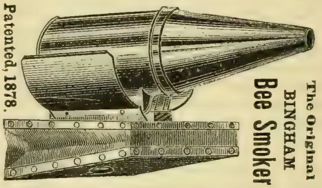

Borodino. N. Y., Aug. 15, 1882.

CYPRIANS CONQUERED.—All summer long it has been "which and t'other" with me and the Cyprian colony of bees I have — but at last I am "boss." Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. Respectfully,

G. M. DOOLITTLE.

Mess. Bingham & Hetherington:—

DEAR SIR,—I received those Smokers in good order, and am much pleased with them, and the improvements, over the old ones. They can not fail to please your customers. Thanks for promptness.

Yours truly,— J. M. HIBBARD.
Athens, Ohio, April 21, 1884.

PRICES:

		By mail, postpaid.
Doctor Smoker (wide shield)	3½ inch,	$2 00
Conqueror Smoker (wide shield)	3 "	1 75
Large Smoker (wide shield)	2½ "	1 50
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Little Wonder Smoker	1¾ "	65
Bingham & Hethering'n Honey-Knife	2 "	1 15

To sell again, apply for dozen or half-dozen rates.

Address T. F. BINGHAM, P. M., or
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Of Improved Italian BEES and QUEENS.

	May	June	July-Oct.
Tested queens........	$2 50	$2 00	$1 65
Untested queens........		1 00	90
Hybrid queens........	1 00	50	40
Bees per pound........	2 00	1 20	90
Bees in the brood, per 1000	45	25	18

Send for Circular. **S. C. PERRY,**
8-11tfd PORTLAND, IONIA CO., MICH.

BEE-KEEPERS' SUPPLIES.

It will pay to get our prices before purchasing supplies; good Langstroth hives, with 8-in. cap frames, in the flat, 60 cts. each; Langstroth winter-protector, in lots of 50, $1.50 each; small lots, $1.75, all in the flat. Manufactured of good pine lumber. Workmanship unexcelled. Crates, Sections, and Foundation. **WM. O. BURK,** 8tfd
Successor to Hiram Roop. **Crystal, Mont. Co., Mich.**

Nuclei! Nuclei!

Bright Italians, gentle and beautiful. Will send any number of frames desired in nucleus. Try my half-colonies. Better than a new swarm. Terms reasonable. Send for circular, and don't forget it.
Dr. A. P. COULTER,
5-12d Lock Box 231, Marissa, St. Clair Co., Ill.

HOLY-LAND AND ITALIAN QUEENS

By return mail, tested, $2.50 each; untested, single queen, $1.00; six, $5.50; twelve, $10. Cook's Manual of the Apiary, cloth, with order for queens, 90 cts. Safe arrival guaranteed.
I. R. GOOD,
11-tfdb. **Sparta, White Co., Tenn.**

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2.00 per year.

Those whose names appear below agree to furnish Italian queens for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 7tf
*Paul L. Viallon, Bayou Goula, La. 7tfd
*S. F. Newman, Norwalk, Huron Co., O. 7tfd
*Wm. Ballantine, Sago, Musk. Co., O. 7tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 9tfd
*Thos. H. Trice, New Providence, Mont. Co., Tenn. 5-15
*D. A. McCord, Oxford, Butler Co., Ohio. 5-15
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3
*S. G. Wood, Birmingham, Jeff. Co., Ala. 7tfd
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*J. W. Keeran, 106 Washington St., Bloomington, McLean Co., Ill. 7-17
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5
*S. C. Perry, Portland, Ionia Co., Mich. 9tfd
C. Weeks, Clifton, Wayne Co., Tenn. 9-19
Will True, Chadwell, Clatsop Co., Oregon. 9-7
W. H. Proctor, Fair Haven, Rutland Co., Vt. 9-17
Jas. Husband & Son, Cairngorm, Ont., Can., 11-13
A. L. Lindley, Jordan, Jay Co., Ind. 11
Theo. G. M'Gaw, Monmouth, Warren Co., Ill. 11-21
Kellogg & Sons, Prairie Center, La Salle Co., Ill. 11
*D. M. Weybright, New Paris, Elk. Co., Ind. 11tfd

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 7tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
C. P. Bish, Petrolia, Butler Co., Pa. 9-17

VANDERVORT
COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfdb JNO. VANDERVORT, Laceyville, Pa.

IF YOU WANT,

I will send you 2 lbs. of bees or more in one package, for $1.00 per lb. Hybrid queens, 50 cts.; untested, $1.00, all this month; after, 50 cts. per lb. Tested queens after 15th of June, $1.50.

M. L. WILLIAMS,
11-d. VANCEBURG, LEWIS CO., KY.

EARLY BEES.

BEES OF ALL KINDS AT PRICES TO SUIT PURCHASERS. AT ALL SEASONS OF THE YEAR.

After July 1st, almost given away.

A. W. CHENEY, KANAWHA FALLS, W. VA. 5tfd

HONEY COLUMN.

CITY MARKETS.

DETROIT.—*Honey.*—The honey market is still lifeless; good honey is quoted at 16@18c., but is not wanted. *Beeswax.*—30@35 cts. A. B. WEED.
May 26, 1884.

BOSTON.—*Honey.*—The sale of honey is almost over, and we are obliged to sell 2-lb. comb for 15c.; and 2¼ and 2½ lb. comb from 10 to 12c. No 1-lb. in market. *Extracted*, 8@10c. BLAKE & RIPLEY,
May 24, 1884. 57 Chatham St., Boston.

CLEVELAND.—*Honey.*—There is a continued steady demand for 1-lb. sections of best quality at 18c.; 2-lbs. not so active at 17c.; 2d qualities are dull at any price. Extracted not wanted. *Beeswax*, 35c.
May 23, 1884. A. C. KENDEL.
115 Ontario St., Cleveland, O.

ST. LOUIS.—*Honey.*—We quote to-day as follows: Extracted honey in barrels, 7@7½c; in small cans, 9@10c. There is very little demand for comb honey. Same in good order would bring 15c; white-clover, 18c. *Beeswax.*—Stock small, and in good demand. Sells at 33@35c. W. T. ANDERSON & &O.,
May 26, 1884. 104 N. Third St., St. Louis, Mo.

NEW YORK.—*Honey.*—The demand is falling off extensively for both comb and extracted, and we believe the season is about to close. We make no changes in our quotations. *Beeswax* is very scarce, and sells at from 37 to 38c.
May 24, 1884. THURBER, WHYLAND & CO.,
West Broadway, Reade & Hudson Sts.

NEW YORK.—*Honey.*—Honey is still moving off rapidly for this time of the year, but at the following low prices. We quote fancy white in 2 lb. sections, glassed, 13@14c; fair to good, 11@13c; dark grades, 10@12c. No one-pound sections in this market. Extracted honey in kegs and small bbls., 8@9c. *Beeswax*, scarce, 36@38c.
McCAUL & HILDRETH,
May 26, 1884. 80 Hudson St.,
Between Worth and Leonard Sts., N. Y.

KANSAS CITY.—*Honey.*—No perceptible abatement of the demand for choice white comb in 1 and 2 lb. sections at 15@16c., but dark and irregular comb, or even choice comb in any but clean, neat, and uniform packages, goes begging at 10@12c. *Extracted*, quiet and in good supply. Nominal at 7@8½c.

Beeswax.—Small lot sold to-day at 35 cts. None to speak of in the market. JEROME TWICHELL,
May 22, 1884. Honey Depot 514 Walnut St., K. C.

MILWAUKEE.—*Honey.*—The demand for honey is very fair for this season of the year, and now quote: 1-lb. sections, choice, 15@16c. Ruling price, 15c.; 2-lb. sections, choice, 14@15c. Inferior to fair, 12½@13c. Extracted in cans, white, 8½@9c. Extracted in cans or pails, dark, 8@8½c.

Beeswax wanted at 28@30c.

Will you please call attention to my card inclosed, which shows you that I have removed to a new place of business, and I think facilities for selling honey and productions generally are increased?
May 16, 1884. A. V. BISHOP.
142 West Water St., Milwaukee, Wis.

CHICAGO.—*Honey.*—The supply of comb honey is very light, and there does not appear to be any choice comb to come forward. Choice white comb in 1-lb. sections brings 18c. Anything short of choice is worth 12@15c. *Extracted Honey.*—There is quite a large amount here, and demand is very light. Purchasers refuse to pay over 7 cts. for manufacturing purposes. Sugar is used instead of honey at present prices, a good article of cane sugar being purchasable at 6 cts. per lb.

Beeswax in demand at 37 cts. for prime yellow; 30@33 cts. for off color. etc. R. A. BURNETT,
May 23, 1884. No. 161 South Water St., Chicago.

REVERSIBLE - FRAME HIVES,
—AND—
WHITE BASSWOOD SECTIONS.
SEND FOR CIRCULAR AND PRICES.
5-7-9d O. J. HETHERINGTON, East Saginaw, Mich.

NOTES FROM THE BRIGHT-BAND APIARY.

I CAN now command 500 colonies in the queen business, if necessary. My intention is to produce queens not excelled by any. Price, untested, but laying, in May, $1.00 each; 90 cents each the rest of the summer. Tested queens, any time, $1.50. The above are from imported Italian queens; queens bred from Kingsley's improved bees, same price. Kingsley's improved bee is simply a cross between the Cyprian, Italian, and Holy-Land bees; and in reality they are ahead of any race, both for color and honey-gathering propensities. Sample live workers sent for 3 cents to pay postage.

All orders promptly attended to; safe arrival guaranteed; full directions sent with each queen.

Make money orders payable at Shreveport.
Address CHAS. KINGSLEY,
10tfdb Benton, Bossier Par., La.

A BARGAIN IN SECTIONS!

Our stock of 6 to L. frame one-piece sections, made with the square-cut groove, we will sell at the low price of $4.00 per thousand. As good sections can not be bought at any other factory for less than $5.00 per thousand.
11-btfd. BERLIN FRUIT-BOX CO., Berlin Hights, O.

From the Ashes!

We wish to state to our friends that we shall be ready to resume operations in the manufacture of apiarian supplies on the 1st of June, 1884. Our capacity for making one-piece sections, 4¼x4¼, will be 25,000 daily. **E. S. MILLER & BRO.,**
Dryden, Lapeer Co., Mich.

ITALIAN AND HOLY-LAND QUEENS.

Fine Queens a specialty, bred from imported and selected stock. Bees by pound; nuclei or full colonies. Send for circular to

W. B. COGGESHALL, SUPT.,
HILL SIDE APIARY,
Summit, - Union Co., - New Jersey.
11-12-d.

ITALIAN QUEENS $1.00 each; $10.00 per dozen. Two-story nuclei, with queens, sent in one box by express, for $8.00. Now ready.
W. H. PROCTOR,
11. *Fairhaven, Vt.*

1884. For Sale. 1884.

Pure Italian Queens and Bees

FIVE-FRAME (Langstroth Frame) COLONIES

A specialty. Five bright new combs, wired in, covered with young bees, filled with brood and stores with a pure young fertile Italian queen. My queens are carefully bred from best imported and homebred stock. Bees gentle, industrious, and beautiful; better than a natural swarm. I was awarded first premium at St. Louis Fair last fall over quite a number of worthy competitors for best Italian queens and bees. Send for circular and price list.
WILLIAM LITTLE,
5-7-9 11-13-15d **Marissa, St. Clair Co., Ills.**

STEAM BEE-HIVE FACTORY
OF THE WEST.

Hives and sections of all kinds. Italian Bees, Colony or nuclei; Comb Foundation, Smokers, Extractors. Best and cheapest Saw-Mandrel made; Babbitt boxes all complete, 20 inches long, $6.00. All Supplies very low for cash. E. Y. PERKINS,
3-13d Jefferson, Greene Co., Iowa.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.
F.A.Whiting

Vol. XII. **JUNE 1, 1884.** **No. 11.**

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

NOTES FROM THE BANNER APIARY.

NO. 55.

SEPARATORS, HONEY-BOARDS, AND L. FRAMES.

FRIEND ROOT, you say that you did not know that it had been repeatedly proven that separators could be dispensed with. Now, aside from private reports, did you not note, in the report of the Northwestern Convention, held last fall at Chicago, that three-fourths of the members could dispense with separators?

You say that the Heddon honey-board is a great deal thicker than the perforated zinc. As used, the zinc raises the sections about 5-16, and the Heddon honey-board about ¼ of an inch higher; that is not a "great deal," is it? I have used both, and was unable to detect any difference in the amount of honey stored.

You say, "Now, when we use an L. frame to get our surplus boxes close to the brood-frame, why should we put in a wooden honey-board and two bee-spaces besides, to push the boxes away off again?" I was not aware, that by the use of the L. frame we *could* get our surplus boxes any closer to the brood-frames. As I understand the matter, the L. frame is used because it secures the brood-nest in a flattened instead of a globular shape, thus securing a larger top surface for boxes, and also inducing the bees, in their desire to keep their combs in a globular shape, to more readily enter and store honey in the boxes placed over the brood-nest. We do *not* put in a honey-board simply "to push the surplus boxes away off again," but to prevent the building of brace-combs between the brood-frames and the sections, and, in some instances, it has been put to the further use of keeping the queen in her proper "sphere." You say, that you do not think that you should use the perforated zinc in the production of comb honey, and I will admit that, with some systems of management, I should consider the zinc unnecessary.

LOSS OF BEES IN A CLAMP.

Last fall a large proportion of our bees were fed sugar. Five colonies were left unprotected upon their summer stands, 10 packed with chaff and sawdust in dry-goods boxes, 13 placed in the cellar, and 57 buried in a clamp. One colony left unprotected died of dysentery; about one-half of its stores was honey; the other half, sugar. It was the only colony that clustered on the upper part of the combs, where was the honey, and, it is to this that I attribute the dysentery. One other unprotected colony starved in one end of the hive, with plenty of food in the opposite end. One other strong colony, with nothing except sugar in its combs, perished by inches, so to speak. The bees between the outside combs perished first, starved, or froze, or perhaps both, I don't know; I only know that they were found dead between the combs. Then the bees between the next space would be found dead; and this continued, without the slightest trace of dysentery, until the colony was dead. The other two colonies had about one-third sugar stores. They lived through until spring, but were greatly reduced in numbers. Finally one dwindled away to nothing, and the other became so reduced in numbers that it was united with a queenless colony. For several years I have experimented by leaving a few colonies unprotected, but I am now satisfied that protection, in *my* apiary, is beneficial. In only one winter, and that was an open one, have the unprotected colonies wintered as well as those that were protected, and in that winter they fared no better than the protected ones; while in severe winters they have either perished outright or been terribly weakened. The colonies that were packed came through without loss. Those having sugar stores entirely, showed but little disposition to fly; and when they did fly they scarcely specked the snow; those having part sugar specked the snow a little, while those with natural stores showed slight traces of dysentery, but not enough to injure the colonies. Those in the cellar came through in pretty good condition. Two colonies, whose stores were largely honey, died of dysentery; others having about an equal portion each of honey and sugar had suffered slightly from dysentery, while those having nothing except sugar were free from it.

As I had previously had such excellent success in wintering bees in clamps, and as the bees in the cellar and those that were protected were wintering so finely, I expected to find nearly every colony in the clamp alive. Never was I more mistaken, and never did I meet a more severe apiarian disappointment, as, when I opened the clamp, and took therefrom, colony after colony, *dead*. But few colonies showed signs of dysentery — those having natural stores — the majority being dry, clean, and healthy looking (?), but *dead*. I think I put too many colonies into one clamp, and covered them too deeply. Many of the hives were almost destitute of bees, the bees having crawled out of them; in others the bees were clustered perfectly natural in the hive, but *dead*. There were 16 hives containing live bees; but in every hive that contained no brood, and there were only five or six that did, the bees at once balled and killed their queens. From 85 colonies we have left only 25; and as luck, or fate, would have it, these are all pure Italians; and as the bees that I have bought are pure Italians, the prospects now are that I can again indulge in that pastime that has become almost "second nature" to me; viz., rearing Italian queens for the market.

A bee-keeper living a few miles from here buried a large number in a clamp, and took them all out *dead;* another living near him buried three, and they came through all right. I should not now advise putting more than 25 colonies in one clamp, nor burying them deeper than 18 inches.

I have just returned from a visit to "Our Clearing," the home of Cyula Linswik and her sister. They were again successful, last winter, in wintering 62 colonies without loss, and I bought and brought home with me 25 of their best colonies. They prepare their bees for winter by packing them with chaff in large boxes; and during 12 years of bee-keeping they have lost only 17 colonies; 15 one winter, and two another, and they attribute their loss to the fact that they were unable to pack their bees, in that particular season, until it was so late that there was frost inside the hives.

W. Z. Hutchinson.

Rogersville, Mich., May 1, 1884.

In regard to the zinc honey-boards compared with the wooden ones, if there is only one-fourth inch difference, I confess that that would not be much of an objection. With the wooden frames, and no honey-board of any kind, we get still nearer to the brood-nest.—In regard to the last part of your letter, friend H., I am very glad indeed that I can so heartily agree with your conclusions. Some years ago I came to the conclusion that for me, outdoor wintering in chaff hives was by all means the safest way, take our winters as they come. My experience has also been like yours in regard to sugar feeding, unless it is the past winter. Our whole apiary came through to the first of May, bright and strong, with no dwindling anywhere, and we have now more bees than we have ever owned before in the world, although perhaps not as many hives numerically. I am sorry indeed to hear of your great loss when most of the rest have wintered so successfully.

DEATH FROM BEE-STINGS.

HOW SHALL DANGEROUS CASES BE TREATED?

I WILL answer a part of the question of W. W. Edwards, asked in your May No., on bee-stings. I will not discuss now, physiologically, bee-stings, but simply the treatment. I will give a typical case. Some 20 years ago I was called in great haste to visit Miss M., a young lady of about 16 years, a strong, healthy girl; had been stung once on arm, not more than 20 minutes previously. I found the patient on the lounge, with head elevated, being fanned vigorously, struggling for breath; entire body was greatly swollen. All clothing fitting about her waist, arms, and limbs, had to be cut off. The pulse was rapid, and therefore could not well be counted, temperature falling; extremities cold and clammy; deglutition very difficult. I gave rum and hot water and sugar (hot application externally) as fast as could be taken; one-half pint was taken within 20 minutes; spirits of ammonia given more particularly to stimulate the heart's action. The more severe symptoms yielded to the stimulants, and a decided improvement was manifest within one-half hour from the time I was first called. Stimulate in every case, and you will hit right in 99 out of every 100 cases. W. C. Bailey.

Chatham, N. Y., May 22, 1884.

Quite a number have responded on this subject, and among them several physicians; and the treatment almost invariably recommended is heavy doses of alcoholic liquors—the poison of the alcohol counteracting the poison from the sting. This is an old remedy, and, of course, it has been used extensively for snake-bites and other similar poisons. I confess I feel greatly troubled at the turn the matter has taken, and perhaps some of the friends may think I am a little fanatical when I suggest that, even though life is saved occasionally by getting the patient partially intoxicated, I am afraid that, in the long run, the remedy will be worse than the disease. Suppose, for instance, the decision should be that whisky, rum, or something equivalent, were the best specific in such cases, the conclusion would be, that every bee-keeper should keep a bottle handy for emergency.

The next question is, who shall decide just how alarming the symptoms should be to warrant administering the medicine? Bee-stings often for a few minutes produce such an effect as to frighten the one stung, and may be the bystanders; but as a general thing it will pass off in a little while by itself. If a heavy dose of liquor were administered, it would doubtless receive the credit, where the patient would have done just as well without it; and who knows but that an appetite for the intoxicant may not result in carrying him to a drunkard's grave?

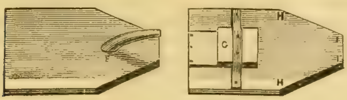
It is not very long since that a friend of mine told me he had tried so many times to break away from this habit, that he did not believe he had the heart to try again, and that the first taste he ever got of it was when it was advised by the doctors when he was in the army. He is now in his grave, the victim of intemperance. Would he not better have died in the army for the lack of it? Of course, we are by no means sure he would have died without it. At one time during the Rebellion, whisky was administered to soldiers because they got stung badly. In a little while the number of boys who applied for whisky because they got stung(?) began to look suspicious, and it was found they got stung on purpose. What proportion of deaths would result from bee-stings, compared with those that result from whisky? This is a pretty "grave" question, and I confess I should like some other remedy.

CLARK'S COLD-BLAST SMOKER.

ALL ABOUT HOW TO MAKE THEM.

THE trade that has now started on these smokers is simply wonderful. When I made mention that we sold ten thousand during the summer of 1883 I thought it was a pretty big thing; but, dear friends, we have sold twice ten thousand already in 1884. Orders for 100 are quite common. In running over the letters for the mailing-clerks, frequently half a dozen, one after the other, will be for smokers, and they are called by all sorts of names, somebody having seen one at his neighbor's and wanting one like it. Yesterday one of the clerks came to me and wanted to know what a man meant by sending for a "bee-tamer." "Why," said I, "that is plain English; he wants a smoker." Now, although smokers are not as bulky goods as sections, and therefore there may not be so much of a reason why they should be furnished at different points that supply-dealers should make their own, still a great many who furnish supplies may make their own smokers at quite a little saving of expense, besides shipping expenses, for they are rather bulky goods to ship, although not very heavy. For the benefit of such, or any who may like to make smokers, rainy days and dull seasons of the year, we give the following particulars in regard to their manufacture:

The first thing to make is the bellows. Two pieces of board, as shown in the cut below, are used for this.



BOARDS FOR MAKING SMOKER-BELLOWS.

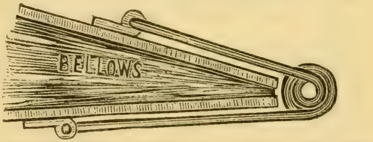
These boards are about 6½ long and 4¾ wide. The thickness is about ⅜, or as thick as can be planed nicely when two are got out of an inch board. The lumber usually preferred is basswood, because it is light, and not apt to split. Where smokers are to be made by the quantity I would cut the inch boards into lengths of 6 or 8 feet, split them up 4 or 5 in. wide, as the case may be, split them edgewise, and plane the pieces on both sides. We put them in bundles precisely as we do the stuff for four-piece section boxes, using the same iron clamps. When clamped, bolts are to be cut off (as in making sections) with a saw large enough to go through. If no such saw is at hand, they may be cut in from each side. After the bolts are cut, a corner is to be taken off, as shown in the cut above.

When the corners of the bolts are off, the whole bolt is to be nicely sandpapered, and the edges of the board planed, so that each board is finished nicely when taken out of the clamp. Just half of the boards are to have a slanting ½-inch hole bored in them, to put in the blast-tube, and the other half are to have 1½-inch holes for the valves, to admit air. By far the cheapest way to bore the latter is while the boards are all clamped together. Have a long bit that will bore clean and smooth, and decide, by measuring, when it is through just half the boards. In this way it takes but little time to get the boards ready for a thousand smokers, for they are never handled singly at all.

For the leather, you want some smooth, soft sheep-skin, and the piece needed for the bellows is 24¾ inches long by 3⅛ wide, in the middle, and gradually tapers to only ¾ inch in width at each end. You will also want some strips ¼ inch wide, and as long as these pieces, for a binding, when the leather is tacked to the boards. The whole of the leather for a smoker should not cost to exceed 10 cents, for we can get a whole piece large enough to make eight or ten smokers for only 75 cts. Besides the tacks, the leather should be fastened to the wood with glue, to get an air-tight joint. The valves are simply pieces of soft leather tacked over the little square boards that cover the hole. In making bellows there will be fragments of leather left that will do for nothing else than the valve.

SPRING FOR OPENING THE BELLOWS.

This is made of coppered iron wire No. 11. The wire is made into straight rods by machinery, and each rod should be 26¼ long. They are bent in a lathe as shown in cut.



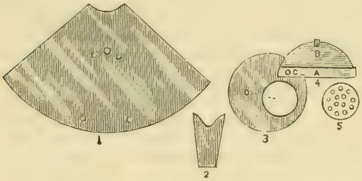
THE SPRING AFTER IT IS PUT ON THE BELLOWS.

Each arm of the spring is fastened to the bellows by a little wire staple. In the figure the spring is shown held by part of a wrought-iron butt. We find these staples to do just as well. We have never known this kind of spring to break, for the spring comes on such a length of wire that it is not severe at any point.

Bend your springs so that the boards will come up promptly as far as the leather will allow. To make a neat job, you should put on the leather with wire nails, about five-eighths in length. Put the boards closely together at the end where the hinge is, and tack one end of your long piece of leather. The boards should be separated at the other ends, as far as the width of the leather will allow. Draw the leather close up to the wood, and tack at intervals. Now tack the ¼-inch strip on for a binding. If you wish a pretty job, use red morocco for this last. When your tacks are all in (I would drive them a little more than half an inch apart) you are ready to pare off the surplus leather with a very sharp knife. Finish off every thing neatly with sandpaper, and your bellows is done. The leather has cost us 10 cts., the two boards possibly 5 cts., and the spring 5 cts. more. Allowing 5 cts. for your time in tacking on the leather and sandpapering, you have a good bellows for 25 cts. For this price it should be as good as any thing in the market.

HOW TO MAKE THE TIN CASE FOR FUEL.

For these cases we want a nice quality of IX tin, 20 in. square. Now draw a circle as large as can be drawn on this sheet. We make them 19¼ in diameter. In the center of this circle, or disc, with a hollow punch cut out a piece 3 inches in diameter. Now cut the circle into four equal pieces, and you have enough for four cases for fuel. This piece or blank is shown in fig. 1 below:



THE TINWORK USED FOR COLD-BLAST SMOKER.

Before folding those blanks up into cone-shaped cups, you will have to snip off the corners, which our engravers failed to do. The blanks should be put through the rollers so as to fold them first on one side and then on the other, that they may roll up smoothly and evenly when formed and locked together finally.

Fig. 2 shows the blank of which the curved spout is made. It is formed up, lapped at the joint, and soldered, and the tube then bent in a curve while a tapering rod of lead is inside of it.

The blast-tube is made of tin, tapering like the spout of an oil-can. It is made just as large, at the large end, as it can be, and be driven into the board. The inside is then burnished down hard and close to the wood, making it firm and air-tight, and then secured by a couple of heavy annealed tacks, driven through the tin and wood, and clinched.

Fig. 3 is the bottom, with door B attached by a rivet C. The door is made by cutting in two a circular piece like the bottom, each piece making two doors. The piece A is formed of a strip 1⅛x5¾, locked into the semi-circular piece on one edge, and folded on the other edge. The end that extends beyond is turned up so as to catch on the bottom of the fire-case, to hold the door securely.

Fig. 5 is the piece of tin that comes out of the door B. It is punched full of ⅜ holes. The edges are then turned over to make it strong, and it is snapped into the bead, seen in the fuel-case just back of where the bent air-tube enters, forming the grate to hold the fuel.

The fuel-case is fastened to the top of the bellows by means of four screws, No. 8, 1½ inches in length. To hold the case up the right height from the wood, four tin tubes are put over the screws before they are turned down into the wood. These tubes are made of pieces of tin, 1 inch square. They are rolled up with a little steel rod having a crank on the end. A groove in this steel rod catches the end of the tin, which is inserted through an opening in a cylinder in which the rod revolves, thus making it possible to roll the tubes quite rapidly.

Almost any tinsmith has the tools necessary for making the tinwork, and if you show him this description he will readily understand it. In our business we have a pair of squaring shears that cut the large circles by a single turn of a crank, and they are cut in quarters by a pair of tinner's squaring shears. The holes for the door are also cut by a foot-power press, and the holes in the blank sheet for the screws and blast-tube are also cut by one operation by the foot-power press.

THE CYPRUS APIARY.

SOMETHING RIGHT FROM OUR OLD FRIEND BENTON HIMSELF ON THE ISLE OF CYPRUS.

A FEW words from the native land of the Cyprian bee may not prove unwelcome to many of my countrymen. As perhaps may be known to some, it was quite impossible last year, owing to cholera in the East, and consequent quarantine regulations, which caused the greatest irregularity in steamers plying in these waters, to obtain any considerable number of queens direct from Cyprus. I did get a few; but owing to delays on the way, the shipments were not very successful, and I was obliged to disappoint many European customers who didn't seem to understand why cholera should affect the exportation of bees. After deliberating the matter some time, I concluded that, as it seemed so uncertain whether I could get a supply of queens from Cyprus during the season of 1884 or not, without personally securing them, and as it seemed to me desirable that we should continue the importation of these valuable bees, I would venture upon another journey to the East, in the hope of bringing about these objects. I will not deny, that I hoped the journey might be made remunerative also, which hope I regard as a perfectly legitimate and proper one, and I desire most emphatically to say that this hope of financial gain was by no means the sole thing which actuated me, the unjust accusation of at least one New-York bee-keeper to the contrary notwithstanding. I can truthfully say, I have never knowingly misrepresented any race of bees, or expressed any opinions concerning any race, which were not honest opinions, derived from a careful effort to arrive at the real worth of the race in question. Should any one for a moment suppose that, through the sale of queens of any race whatever I ever gained any considerable sums of money, he is most decidedly mistaken; for, had I stuck to my original occupation, that of a schoolmaster, and kept a few hives of bees for honey, or had devoted my time to honey-raising exclusively, I would have been much better off financially than I now am. I beg leave, therefore, to insist that whatever statements I make regarding any race of bees are actuated by a disposition to make known the plain convictions which have forced themselves upon my mind during my experience with various races.

I know of a race of bees that is likely to please the majority, at least, of the bee-keepers of America, and that I can supply with facility; but if any one were to ask for my candid opinion of this race, as compared with Cyprians, I would unhesitatingly give the preference to the Cyprians; yet I would not mean to say thereby that the Cyprians have no faults, nor that the other bees are not good ones. Side by side in the same apiary last year, I found that, during a good harvest, the difference in the amount of honey gathered by strong stocks of Carniolans and equally strong stocks of Cyprians was only slightly in favor of the latter; but as soon as the harvest slackened, the difference was very apparent. The Carniolans lost courage, and not only consumed the stores they happened to have, but went on robbing excursions. Made queenless then, they did not defend their hives well, but fell an easy prey to plunderers. On the other hand, the energetic Cyprians were doubly vigilant in keeping off robbers, scarcely ever allowing one to alight at the entrance, and often they sprang, apparently, into the air a foot to catch the marauders. There was no earthly use for robbers to attempt to gain an entrance into a hive of Cyprians. After the first disappointment at the check in the honey-flow they kept steadily at work bringing what honey and pollen they could find, and continued rearing brood; and it is a fact, that when they were carrying, for their strength in population, *double* the amount of brood that Italians and Carniolans had, they were daily gaining in surplus stores of honey and pollen. Cyprians and Syrians furnish me the most honey, and that is what I presume most people keep bees for—at least, the *main* object in view. All in all, after over four years' experience on an extended scale, most of the time in the Orient, I am decided in favor of the Cyprians as the hardiest, most energetic, and stable race of bees yet known, and no one can point to handsomer bees. As a practical proof that I believe in what I say, I will add that I have purchased both the "Cyprus Apiary" of Mr. Jones, and the "Mt. Lebanon Apiary" of Mr. Baldensperger, yet am making Cyprus the chief scene of operations instead of Syria, having greater faith in the bees.

The great question, then, lies in their disposition. All Eastern bees are nervous, quick-tempered fellows; but there is much difference in individual stocks. There are Syrians just as bad as the worst Cyprians, and yet in general I find both races quite manageable—much more so than the Palestines. I have many colonies at present which I handle without smoke, veil, or gloves, and do not often get stung. Exceptionally irascible stocks must be weeded out of every apiary. It must be borne in mind, that these races are natural races; that is, their chance surroundings have brought them up to a high point; yet there is still a good opportunity for improvement. We have a most excellent foundation upon which to start—that vital energy and activity so peculiar to the Cyprians (the bees must have completely robbed their masters of these valuable traits), and in twenty-four years—yes, far less time than that—the Cyprians can beat Italians "all hollow;" indeed, they have already done so, having given the largest record yet made. Hold up the Lone-Star banner, friend Carroll; and Michigan, my native State (I "once lived in America!"—see *American Bee Journal* for Feb. 27), look well to your laurels. FRANK BENTON.

The Cyprus Apiary, Larnaca, Cyprus, Apr. 23, 1884.

Friend B., I am sorry to know that any American has been so uncourteous as to accuse you of having left your native land, with the principal object in view of making money. I have not noticed any thing of the kind; but those who know you, and who know friend Jones, certainly would not believe any such statements; and those who do not know you are certainly very uncourteous and ungentlemanly in making any such remarks. People who indulge in such things are usually set down by the world as judging others by themselves.—I am glad to hear your good report from the Cyprians. I do know there is a vast difference in the temper of the progeny of the queens we receive from friend Jones. My past acquaintance with the Holy-Lands induced me to pronounce them very gentle and pretty bees. I have found some queens since, however, whose progeny are as bad as any bees I ever saw. The Cyprian queen that friend Hayhurst happened to get was one of the worst type; and queens raised from her down to several generations show this same vicious disposition. Cyprians reared from other imported queens, however, are almost all that can be desired in the way of temper; and so far as yellow bees are concerned, no one could well be disappointed in that respect.

THE CLOVER-HAY WORM.

SOMETHING ABOUT A NEAR RELATIVE OF THE BEE-MOTH.

A FEW days ago a load of hay was brought into our town, infested with worms, and some of them were procured and sent in a bottle to Prof. Cook. He gives us the following particulars in regard to them:

The larvæ, or caterpillars, which you send are quite a common pest in our country. It is not only found in the Mississippi Valley, but also has attracted attention in the New England and Middle States. The insect is a moth (*Asopia costalis*, Fabr.). Curious enough, it belongs to the same family as does our old acquaintance the bee-moth (*Galleria cereana*), and shows its kin-ship by the abundant silk it spins. In stacks of hay and in hay-mows it not infrequently mats the whole together with a firm web of its silken threads; so, though it does not surround itself with a gallery, as does the bee-moth, it does nearly as extensive weaving

I have seen these larvæ hang from their silken cords in barns, beneath a scaffold of hay, in such prodigious numbers that, by a single sweep of a hay-rake, one could brush down a thousand. This hanging from a scaffold is not dreaded by these culprits; in fact, they seem to enjoy it. They are specially liable to attack second-growth clover, or after-math. They no doubt do great damage where they are so very numerous.

The moths which these "clover worms" develop into are attracted by light, and frequently fly into our rooms all during the summer months. They are purple, with golden-yellow bands. They are about ½ inch long to the tip of wings, and expand nearly one inch. The eggs are laid on clover hay. The larvæ are gray or brown, often olive color, with brown heads. They are readily told, as on the back of each segment is a transverse line, making it appear like two segments. On each part of each segment are four circular dots, so arranged as to divide the back of the ring into four nearly equal parts. These double segments and dots will always serve to identify the larvæ, if one has a magnifying-glass with even feeble power.

The cocoon is formed right in the hay, of white silk mixed with excremental pellets and pieces of the clover. It is about ½ inch long. The chrysalis within the cocoon is yellow, and ⅓ of an inch in length. There are probably two or three broods a year. It is quite difficult to fight so numerous and well-concealed an enemy. It has been suggested to build stacks of hay on rails so air could circulate beneath; but from the way they attack hay in barns, I should have little faith in the efficacy of the method. If the hay should be forked over, and pyrethrum sprinkled liberally among it, I should expect the death of the insects. Were it not for the explosive nature of bi-sulphide of carbon, that liquid could be used. By throwing quite a quantity on to the hay it would almost certainly kill the insects. Caution would make this remedy safe, as the absence of all fire till it escaped would make it safe. It would be expensive, however. The vapors of this liquid are heavy, and so would pass down into the hay. I think the cost of the liquid, let alone the nature, would preclude its use. A. J. Cook.

Lansing, Mich., May, 1884.

BEE-STINGS OF A DANGEROUS CHARACTER.

DR. KEATOR TELLS US HOW A SURGICAL OPERATION MAY PREVENT DEATH FROM SUFFOCATION.

In response to W. W. Edwards, on page 300, in regard to what can be done in cases of bee-stings that seem to endanger life, I would say that the only cases that are likely to produce alarming symptoms are those where the sting has been inflicted on the tongue or in the throat. In cases of this kind, where the swelling threatens suffocation, it may be necessary to scarify the parts and allow free bleeding, and at the same time apply an ice packing to the throat; and as a last resort, the performing of tracheotomy; *i. e.*, opening the windpipe at the larynx, and the introduction of a tube from the outside; but these cases are so seldom fatal, on account of the short duration of their urgent symptoms, that I think tracheotomy will seldom be required.

Another class of cases where the surgeon is frequently called upon to prescribe, are such as the woman suffered from, as described by Edwards. The probable cause of the single sting causing such alarming symptoms was due to the poison being introduced directly into the blood by the sting entering a small blood-vessel. Under such circumstances the proper treatment is to bathe the part freely with hartshorn, and administer copious draughts of olive-oil—say from one to two ounces every two or three hours, until these symptoms begin to subside.

In cases where a large number of stings have been inflicted, the first thing to be done is to examine the parts with a lens, and extract all the stings. If the shock to the system be so great as to produce syncope, alcoholic stimulants will be called for. Vomiting under such circumstances need not occasion alarm, for it is due to a reaction from the shock, and is always considered a favorable indication. The treatment will be the same otherwise. It should be born in mind, that the poison of the honey-bee is a healthy secretion, and its poisonous effects are due to an irritant acid: hence the alkaline treatment.

Accord, N. Y., May 5, 1884. T. O. Keator, M. D.

FURTHER REPORT FROM THE NEW PERFORATED ZINC.

FRIEND ALLEY SAYS IT ANSWERS THE PURPOSE, AND DOES NOT HINDER HONEY OR POLLEN GATHERING.

Since writing you about the perforated zinc, I have made some experiments, and find that the *Jones* pattern will not do as well for the queen-traps as the new zinc. I have, during the past few days, placed the traps, having the *new* zinc on them, at the entrance of my best colonies, and watched them for results. The weather was quite warm, and the bees were gathering honey from fruit-blossoms. The bees had no trouble in going through the zinc; and no pollen, of any account, was brushed from their legs. The bees pile up some when the trap is first put on; but any one will soon see that they go through, and leave and return to the hive as rapidly as they do when the trap is not used. I am satisfied that the new zinc is a success. Merely placing the trap in front of the hive for a few minutes is not enough to test its workings.

The old zinc (Jones's) has some advantages not thought of. While it will prevent drones from flying, it will not prevent young queens from leaving the hive. Thus, you see, it is easy to have them fertilized by any drones desired.

The device you credit to Mr. Eaglesfield is rather old, friend R. Mr. K. P. Kidder, of Vermont, has a patent-claim on just that thing, but I think it was patented so long ago that the patent has run out. But, why use any thing of the kind, when the bees have no trouble in going through the zinc? If something of the kind is needed, why not arrange tubes for the bees to pass through into the hive, like those in the trap? I will try to get a nucleus from Mr. Ewing, and see how large his bees are. In my opinion he does not leave the trap on the hive till the bees can learn the new way out and in.

Wenham, Mass. Henry Alley.

Thanks, friend A., for reminding me that your wire-cloth cones will answer the same purpose as the little hanging doors, and they will certainly be less complicated.

HUMBUGS AND SWINDLES

PERTAINING TO BEE CULTURE.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

I SUPPOSE you are all glad, as well as myself, to see that this department has of late been uncalled for, and I am glad to say now that we have nothing pertaining directly to the bee business. There is one matter, however, to which I have called attention before, which I wish to speak of again. It is the electric and magnetic and other appliances for the cure of diseases. One of our old friends and subscribers wrote not long since, that he was paying all his money to some sort of an electrical institution in Chicago for doctoring him. When I remonstrated a little he said they were going to pay his money all back, if it did not do him any good, and I could hardly convince him that his money was thrown away. We copy the following from the *American Agriculturist:*

MR. HART'S EXPERIENCE WITH "MAGNETIC APPLIANCES."

Mr. S. N. Hart, of Southington, Conn., writes us, that in December last he received from a concern in Boston, Mass., "a belt and insoles. Their circular says: 'Bear in mind, we guarantee a cure, and will cheerfully refund the amount paid when they fail doing all that is claimed after reasonable trial.' On Nov. 13th, they wrote me: 'Yes, we will guarantee a cure, or will take pleasure in refunding the money.' On Nov. 19th they wrote me: 'We guarantee to effect a cure, or refund the money.' On Dec. 4th I commenced wearing the belt and insoles, and used them faithfully for ninety-nine days. Neither my wife nor myself were able to see the least advantage from their use, and on March 5th I wrote them to refund the money (ten dollars). March 12th I mailed them another letter, stating that I should send a sight draft. I returned the belt and insoles on March 12th, and can truthfully say that I have had no reason since to think that they ever did me a cent's worth of good. The draft was returned, marked 'refused.'"—We have examined numerous so-called "Magnetic," "Galvanic," and "Electro-magnetic" appliances; and though some make a great display of "hardware," we have never yet seen one that could produce any electric, galvanic, or electro-magnetic curative influence. Any form of electricity, to produce any effect, must pass through the diseased portion of the body, and act on the nerves. None of those we have seen do any thing of the kind. The appliances we have seen consist of

DISKS OF COPPER AND ZINC, OR OTHER METALS,

riveted to India-rubber cloth. That they have sometimes been useful, we do not doubt, as a strip of rubber cloth applied closely to the skin is often very beneficial in rheumatic and other affections, and probably none the less so, if it has some metal disks attached. Very likely the alleged curative power claimed for the various "appliances" is due to the cloth and not to the various metals attached to it, which may serve as ornaments, and aid the imagination of the patient, as they look "scientific." As to our correspondent's failure to get his money back, what can he expect from one who will propose the impossible—"guarantee to effect a cure"?

We commend Mr. Hart's example to others. He has a charge to make, and makes it boldly, without adding, "please do not use my name." We can understand why, in many cases, persons should not wish to have their names appear; but in instances like the above, where there is a direct failure to comply with an agreement, and there is nothing of a delicate nature involved, correspondents should be willing that their names be given. A warning, substantiated by a name and address, has far more influence than when initials only are published. Still, where our correspondents indicate a desire to avoid publicity, their wishes are respected.

This whole matter of curing diseases by the use of such things as mentioned above is ridiculous, and a disgrace to modern civilization. Any one conversant with the laws of electricity or magnetism can tell you that the idea is as absurd as the old superstition of nailing a horseshoe on the door to insure good luck. Electricity has its place in medicine; and in the hands of a skillful and intelligent physician may no doubt prove beneficial. Its value in medicine has, however, been greatly exaggerated, even when used intelligently; and, if I am correct, shocks of electricity have just about as much of an effect on a rheumatic patient as would rubbing or pounding, or any other form of starting circulation. The whole business is a swindle from beginning to end; and yet thousands of people are wasting or handing over their hard-earned money from day to day to unscrupulous swindlers. Newspapers and journals are giving place to their advertisements that ought to be ashamed of themselves.

HOW I LOST MY BEES.

ARTIFICIAL HEAT FOR WINTERING.

MOST of the readers of GLEANINGS are doubtless aware that I usually winter half of my bees out of doors, packed in chaff, and the other half in a bee-cellar, built especially for wintering bees. Last fall, as usual, I set half of my full colonies in this cellar, together with about 20 queen-rearing nuclei, which were small, the most of them (nuclei) having but three combs each. The full colonies were strong, and had at least 25 lbs. of honey each, as all were weighed in October. Those left outside had the same amount of stores; but before March 1st, I found one starved to death—a thing which has happened with me but once before since I kept bees. During March, one of those out of doors died with the dysentery, which was the only one that showed any signs of the disease. This colony was a Cyprian, the queen having been sent me from Texas last June. They persisted in breeding all winter, which I think was the cause of their death. One other starved during a cold snap in March, with honey in the opposite side of the hive, they having a Hill device over the frames; so I lost three, all told, of the half left out of doors. Most of the remainder are in good condition.

But my heavy loss was in the bee-cellar; and to tell how it came about is the object of this article. The cellar was dug in a side hill, so that it could go deep into the ground, thus securing an even temperature, which was 42° winter after winter heretofore, not changing at all, no matter if the mercury went to 20° below zero, or stood for a week at 60° above. Leading into this cellar were three doors, inclosing between each two doors a dead-air space of two feet, which kept the cold, or warmth, as the case might be, from reaching the cellar. In this cellar I have been quite successful in wintering my bees, till the past winter; and I think I should have been this, had I been contented to let "well enough alone."

The bees were all set in Nov. 20. I went in the next night after setting them in, to see how they appeared. All were quiet and nice, with now and then a colony being partially clustered outside, similar to what they do in very hot weather in the summer. Looking at the thermometer, which is always kept hanging in the cellar, I found that the temperature was 50°. As the bees seemed so quiet and comfortable at that degree of heat, and remembering that L. C. Root and others had recommended 50° as the right temperature for cellar wintering,—Ira Barber even saying that from 65° to 90° was what it should be,—I fell to wondering why it would not be a good plan to keep the temperature at an even 50°, if possible, instead of letting it go gradually down to 42°, as it always did after the heat, caused by the excitement of the bees during the process of setting in, had subsided. This certainly would be nice for the nuclei, I thought, so I told Mrs. D. I was going to try an experiment with the bee-cellar, by placing an oil-stove between the two doors nearest the cellar; and by turning the wicks up or down I could regulate it to perfection. She expostulated, by saying that she thought I was risking *too much*, for heretofore I had never attempted to experiment with more than two or three colonies at a time; and thus if the experiment proved a failure I had but a small amount to pay for the knowledge gained. I told her it would hardly seem that L. C. Root and others could be mistaken; and if I tried the thing at all, I must try the whole, for there was no way to try a few. She reluctantly consented. So the next day I placed the stove between the doors; and as the temperature began to lower in the cellar, I lighted the wicks of the stove. At first I had to turn the blaze very low, in order not to get the temperature higher than 50°; but after a little it took more of a blaze. I soon ascertained that I wanted to keep the temperature at 77° between the doors, to have it 50° in the cellar; so after this I went into the cellar only twice a month, that being on the 1st and 15th of each month. I had no difficulty in controlling the temperature to within a degree or two; and as zero weather came on, the sight of the condensed vapor from the upper ventilator, rolling off like a cloud of smoke from a chimney over a wood fire, made me feel quite exultant over my experiment, for nearly all the damp, foul air was being carried off from the cellar, to perfection.

I had no thought but that the experiment would prove a success till Jan. 15th, when I happened to think that I would look at the bees under the quilt at the top of the hive. Those clustered below the frames, and on the outside of the hive, seemed so quiet that I supposed those inside would be in that semi-dormant state they always were in in the cellar in the winter; but, to my surprise, as soon as I raised the quilt they were ready to fly at the light, and on to me, instead of being apparently lifeless. I left the cellar feeling a little disheartened, but thought that, of course, the 8° higher temperature would cause them to be thus lively. February 1st I found dead bees thickly strewn on the cellar bottom, of which, previous to this there had been far less than I had ever known before, and most of those clustered outside had disappeared. I began to feel despondent over the matter, but thought if I then took the stove away I should surely lose the bees, so I kept the fire going the same as I had.

The 15th of February matters were still worse; and on the first of March several were dead, while the dead bees on the cellar bottom were nearly two inches deep. I now took the stove out, for I saw it would be sure death to all if I kept the temperature longer at 50°. By the 15th of March the temperature had gone down to 47°, and on April first it stood at 45°. I now began to set them out, and, much to my surprise, I found, upon taking the frames out of those which had died first, that the temperature had been high enough so that the moth larvæ had taken possession of the combs, spun their cocoons, and passed to the chrysalis state, and some even to moths. Upon getting all set out about April 20th, I found that four-fifths of the full colonies were dead, while three-fourths of the nuclei were alive.

Well, I have learned something; but the cost is greater than I wished to pay. It would have been more pleasant to have passed over this without telling of it, but I think it no more than just that I give all my reverses as well as my success. I give the above as a caution to all. If you have a plan of successful wintering, stick to it, and don't be so foolish as I have been in trying to learn something good, to try an uncertainty. In the above I have given the facts, and probably different opinions will exist as to the cause of the failure. My opinion is, that the bees were uneasy inside of the cluster, and, by a constant stirring, wore their life away, so that by the middle of January they began to die of old age, thus leaving their hives as all old bees do when the temperature is high enough so they can. Some of the hives did not have twenty bees left in them, they all went out so clean. In one I found eight dead bees and the queen in a little cluster, while, scattered over the combs, were nine more. Out of all this loss there was one very noticeable, and, to me, quite consoling fact, which was, that in this cellar I had several colonies whose queens I had purchased or exchanged for last June and July, also some Cyprian colonies, and quite a large number of hybrids. Nearly all the above died, while the larger proportion of my best Italians, which I have spent years in breeding, survived. In this I have some consolation at least. G. M. DOOLITTLE.

Borodino, N. Y., May 12, 1884.

Well, friend D., it seems a little singular to think that you and friend Hutchinson have both lost, when others have done so well, and also that you both lost by cellar wintering, if so we should term it. I confess I am a little surprised to think that you should make so rash an experiment, and I am glad to know that your good wife did protest against it. I tried artificial heat in the house-apiary a good many years ago, and I thought my coal-oil stove, or, rather, a large coal-oil lamp, was just the thing; but my bees in the house-apiary all played out about as yours did, while those outside, that were let alone, got along all right. I am glad that both of you come out so frankly and tell us of your reverses, and I heartily approve of your injunction to the A B C class, to let well enough alone. I think it quite likely, however, that L. C. Root, with his arrangement for getting a temperature of 50°, would get along all right. Are you sure you had a sub-earth ventilator that gave a sufficient volume of air for so many colonies, and with a temperature a few degrees higher than you had formerly kept it? Would not plenty of fresh air have made it all right? Of course, this is merely a suggestion.

ENAMELED SHEETS FOR COVERING FRAMES.

SOME SUGGESTIONS AND CONSIDERATIONS IN REGARD TO THEM.

THE enameled cloth has often been a great bother to me, because it can not always be kept tight at the edges. If the bees once find their way to the upper surface they commence smearing it with gum, which, in drying, shrinks and rolls up the edge of the cloth. Then the bees gnaw the edges, making them notched, and soon the cloth becomes unfit for its designed use.

Now, I have a contrivance to remedy this trouble, that I am greatly pleased with. It may not be new, for I see that many a new-fledged bantling proudly sent to you, is pronounced *old.* Neither do I call it an invention, for it is only a modification of the shingles, and wooden and tin binding that we have all used. I send you by this mail one of the articles; and if you judge it to be old or useless, then cast aside *that* article and *this article.*

DESCRIPTION.

Take some strips of soft wood, about ¼ by ¾ in., and of sufficient length, and miter them to fit rather tightly inside the top of the hive, lying flat on top of the frames. Then take your old enameled cloth and cut off the worst side and end until it is a little smaller than the hive all round—say ¼ inch. Place the sticks in a hive in proper position; lay the cloth upon them, *black side up*, and tack it to the *side-pieces only.* It is then exactly right to fit when turned over with the black side down. Use very small tacks. Place two movable gauge-pieces in your miter-box as a measure in cutting the pieces, when you find the proper length. This device is most convenient with weak swarms, and in cold weather, when there are few bees in the way, and is then especially useful, as it can be made about air-tight with very little care, and effects a great saving of warmth. When not in use it is easy to roll up and store in small compass. After a trial of more than a year I write this. JOEL A. BARBER.

Lancaster, Wis., May, 1884.

I will explain to our readers, that friend B.'s device is four sticks put together exactly like a picture-frame; that is, they fit together at the corners with a mitered joint. The side-pieces are fastened permanently to the enamel cloth, while the end-pieces are movable. I used something similar years ago; but as I dislike loose pieces or sticks that may get lost, anywhere about a bee-hive, I discarded strips along the sides, and used only the tin-lined ends. Where one takes care to put these down nicely in place, bees seldom if ever go up along the ends; and to prevent their notching along the sides we have the enamel cloth hemmed, and also made on a curve, bowing outward, as you may have observed. This gives a surplus of the sheet right in the middle, just where bees are most apt to push through. When the sheet is new and first put on, one may be inclined to think it might not stay down in place. But you can make it do so by taking a litle pains. The next time you open the hive you will find the sheet has got settled, as it were, into such a position, and goes back there very readily. Letting bees get up under the cover in any hive is a very bad feature indeed. We have what I consider a very careful apiarist now, but yet I heard the " bones crack " a few days ago when he went to put on the cover of a Simplicity hive. Three or four of the little yellow chaps had naturally pushed their heads out, and stood on the bevel. There they were, their poor little innocent bodies quivering in agony, just because of his want of care. When I spoke to him he raised the cover up and fixed the mat; but by this time the colony, which could have been handled easily without smoke, had become pretty furious, and I could not blame them. At another hive, I noticed, when I set a frame back, it touched bottom and mashed bees. When I told him, with some emphasis, that I would not have that kind of work *anyhow*, he asked what I would do. I told him I would pull out that frame and measure it. If it was over 9⅛ inches, to have it fixed before going any further. But if it transpired, however, that the hive was at fault, either have the hive fixed by raising the rabbet, or make kindling-wood of it.

And now, my dear friends, I am sure I am right in saying that we have no business killing and crushing bees. If you don't get quite so much money by going slow and careful, where their lives are in danger, you will have more "clear conscience," which is immeasurably of more value than money or any thing else that money can buy. In view of this, I think it will be an excellent idea to adopt friend B.'s device whenever your enamel sheets get old and ragged around the edges, or have your new ones made so, if you like. I do like to see a hive that can be shut up quickly, and so securely that not a bee can even look out and make faces at you.

ITALIAN BEES AND RED CLOVER.

AN OLD SUBJECT RECONSIDERED.

See May number, pages 299, 300.

I HAVE kept Italian bees for 15 years, as many as 40 colonies at a time, in a location where red clover abounds, but I have never yet seen one pound of red-clover honey. I have watched the red-clover fields when they were a sea of bloom, year after year, without finding Italian bees working upon it. I have closely watched the second crops of bloom upon red clover in all of its various stages, and have never seen bees work freely upon it at any time. I have seen bees work some upon the second crop of red clover, but I have found as many black bees, in proportion to their number, working upon it as there were Italians. I have never been able to find enough red-clover honey in a hive to tell what it looks like. Such has been my experience when I hoped and expected it to be otherwise.

I will not dispute, that Mr. Root's bees "*do gather honey in large quantities*" from red clover, nor that the failure of his bees to do so is the exception, and not the rule, as he tells us. But, not only from my own experience, but from all that I have seen upon the subject, I firmly believe that nine-tenths of the candid bee-keepers of the country will agree with me, that where Italian bees gather honey in any appreciable or merchantable quantities, from red clover, it is a rare exception and not the rule. Where

Italian bees have been found working upon the second crop of red clover, black bees, when in the vicinity, have also generally been found working upon the same. I appeal to brother bee-keepers, to know if this is not a fair statement of the case. If so, is it "unjust" or "unkind" to say that it is deceptive to induce people to buy Italian bees, with the expectation of getting surplus honey from red clover? I am not discussing the superiority of the Italian bees over the black, or any other kind: I am willing to grant their superiority to all other kinds, but I dispute this one point claimed for them.

Great interest has been manifested of late in honey-producing plants. We have honey from white clover, from alsike clover, from willow, from basswood, from black-locust, from buckwheat, goldenrod, corn, etc., all of which I have seen and tasted. Then there is the California sage, the Texas horsemint, and the Canada thistle, and other kinds that I have not seen. The most of these kinds of honey have been upon the market — offered for sale, properly designated after the source from which it was gathered. Red clover is grown over a greater area of country, and in greater quantities, than any one of these honey-producing plants, and there is now no lack of Italian bees to gather the honey from it. But there is no red-clover honey offered for sale; or if so, it is but a rare instance. I should like to know of friend Muth what proportion of honey he handles is from red clover. Acres of alsike clover are now being sown where red clover and Italian bees abound. One of our most intelligent keepers of Italian bees has been patiently trying to produce a red clover that his bees could get honey from, by selecting seeds from a short head of clover, and carefully planting them, year after year, virtually admitting that his Italians did not usually get honey from the common red clover of the country.

Not long since, a queen-breeder called one of his queens the "red-clover queen," claiming that her progeny got honey from red clover when other Italians did not. Was not this an admission, also, that it is unusual for Italians to get honey from red clover?

With these statements I am now prepared to answer friend Root's question. Yes, sir, from conscientious convictions I believe such a statement deceptive; and I say it without the least "unkindness" to any one who may differ with me; and with my convictions it *would be* "unjust" in *me* to induce any one to get Italian bees with the expectation of getting surplus honey from red clover.

THADDEUS SMITH.

Pelee Island, Canada, May 10, 1884.

Our bees work on red clover here in Ohio every season, in June and July. I have seen it throughout different parts of our State; and bee-keepers with whom I have conversed often, give it as their opinion that more honey is gathered from red clover than white. Of course, there are times when the clover-fields are almost unnoticed in the fall of the year; but of late years such times are not very frequent. Perhaps the different observations you have made may be owing to the different kinds of clover. With us the bees are always at work on the pea-vine clover. I don't think I ever saw an exception. Of course, you have noticed what has been said about it. It is so common a thing to see blacks and hybrids working on buckwheat, and storing dark honey while Italians are working on red clover, and storing white honey, that it has been frequently reported, and it is mentioned in the A B C book. Of course, I do not mean to say that in our locality we get enough honey in the fall to have it stored in sections every season, but that the bees are seen busy on the clover, and the honey is found in the brood-apartment, affording honey to keep up brood-rearing, and often for winter stores. The queen which I called the red-clover queen had her hive full of solid sealed stores of white honey, while almost every other colony in an apiary of toward 300 had to be fed. I called her the red-clover queen because her bees seemed to mass more, while the seed crop of red clover was in bloom, than any of the rest of them.

Some years ago we used to have visitors who would announce themselves something like this: "Mr. Root, will you please show me Italians working on red clover?" If they came at a season when clover-fields were in bloom, I have never failed of convincing them. During the months of June and July they almost invariably admitted there were more bees to be seen on red clover than on white. It is on this account that I have recently had our honey-labels read "clover honey," instead of "honey from white-clover blossoms," as we used to have it. The term clover honey covers white clover, red clover, and alsike. Some bee-keepers claim to be able to distinguish red-clover honey from the white; and I have sometimes thought I could distinguish a little difference. The difference is so small, however, that I believe it has been mutually agreed it is not worth mentioning. At our conventions, sample jars of red-clover honey have been exhibited quite frequently. On asking how they decided it was red clover, the reply has been, "It was gathered when no white clover was in bloom."

POLLEN, AND ITS RELATION TO DYSENTERY.

ANOTHER PROOF THAT BEES DO NOT NEED POLLEN IN WINTER.

LAST fall I prepared 25 stocks of bees for winter in chaff hives, and 20 more in single-wall two-story hives—bees in lower story, and chaff cushions in upper one. These 45 stocks graded all the way from very light to very good, both in quantity of bees and stores. All had the same combs left in that had been there during the season, so without doubt all had more or less pollen. Then I put up 7 small queen-rearing nuclei the same as I did a year before (see GLEANINGS for June, 1883); that is, in a long hive that would take an L. frame crosswise, generally using three combs, then a thin wooden division-board. One comb would be empty, and two well filled with honey; but I took special pains to see that they contained no pollen. Over this hive I put a rough box, giving about 4 inches of space all around said space; filled with chaff, with passage-ways for each lot of bees to fly out, then I put up 7 more about the same, only these combs were about 11 inches square, and about entirely *empty*. I do not think there was 2 lbs. of honey for the whole 7 nuclei.

It was in December before I got these put in, and only a few days before our steady cold weather began, and I think it was cold—27° below zero. I wish I knew just what the bees in each of these 14 stocks did weigh; but I do not think one-half of them had more than one pound of bees each, and not one of the lot that had more than 2 lbs. Of course, each one had a queen. During the cold weather I was frequently asked, had my bees stood it, and I would say that I expected to find quite a lot of them dead. I grew somewhat anxious; so one day when it was not quite so sharp, I raised the lids of one package, then one corner of the quilt. Buzz-z-z-z! Down went the quilt; down went the lids; they were yet alive.

About the 20th of January I could discover that the bees in the regular hives began to need a flight; by the 25th the situation was getting critical. Dysentery was developing badly; in some cases the bees were leaving their cluster, and dying. I was growing anxious for a warm day, and it came just in the nick of time. The 31st of January was clear, bright, and warm, and the bees improved it, for all in the regular hives flew freely from 10 to about 2 o'clock, at which time they had nearly all stopped, but not quite.

I had several times passed through the apiary, and up to this time the little stocks in the compartment hives had not shown themselves much, only one or two flying at all; but being anxious that they should, I opened both lids out flat, and took off the cushions, which were of *white cloth*—note this—and dropped them in the lids, then turned up a corner of each quilt or cloth, and left them so that, in half an hour, I looked out, and my first impression was that they were robbing, for there was such a swarm of bees flying there; but on getting nearer I saw that all was right. An hour later and all was quiet. I then went round and looked at every hive in the apiary, and every one of the 45 had the spottings of dysentery, pure and simple, if I know what dysentery is, and I ought to, having lost over 100 colonies in former years. Lastly I came to the nucleus stocks, and I got right down close, and looked sharp, and especially on the white cushions, and found two spots on one, and only one on the other. Then I could swing my hat and shout, "Eureka! eureka! I have found it! I have found it!" The true cause of the dread disease, dysentery, is pollen! The 14 were all dry, healthy, and as lively as one could wish for, and are to-day, May 13th, all building up as fast as can be expected. The 45 in regular hives were not troubled any more with diarrhœa after that cleansing flight of January 31st. All have lived through, but some are quite weak.

The above facts clearly prove to my mind that pollen is the prime cause of diarrhœa, for 45 stocks that had pollen all had it, and 14 that had *no* pollen had no disease, as I fully believe that the three spots found were dropped by bees from some other hives as they were flying over. But, hold on; you will ask what those seven little stocks lived on that had no stores. Why, I just raised the lids and put about half a pound of pure extracted honey, *candied hard*, right on the frames over the bees about twice a month, and that is all. A. A. **Fradenburg.**

Port Washington, O., May 13, 1884,

Many thanks, friend F., for your very careful experiment in this matter. I am also glad to know that candied honey laid on top of the frames is a safe way of feeding for winter. If bees fed in this way come through healthy, and without any trace of dysentery, simply by giving them combs to winter on, entirely free from pollen, it is certainly quite an important matter. We have had many reports before, demonstrating that bees would winter entirely without pollen, but you have shown us that nuclei without sealed stores came through in better condition than even full stocks prepared in the usual way with natural stores. If this can be done every time, it would be quite an important matter, because it enables us to winter over valuable queens without being obliged to take a full colony for each. Had you given one of these nuclei, or several others similarly prepared, combs well filled with pollen as well as honey, the experiment would have been still more conclusive.

A MODEL BEE-KEEPERS' CONVENTION.

PROCEEDINGS OF THE NORTH-WESTERN OHIO BEE-KEEPERS' ASSOCIATION.

THE association met at the residence of S. H. Bolton, in Hancock Co., O., according to adjournment, on Friday, May 9, 1884. The day was all that the most sanguine could wish for; the attendance good, and a very enthusiastic and interesting meeting was the result.

The president, Jacob Guisinger, called the meeting to order shortly after 9 o'clock A. M.; and as the meeting was for practical work in the apiary, the committee on programme announced the following as the order of business:

Transferring of bees; the first hive to be transferred by Frank Eaton, of Bluffton; the second by the president; and the third by any one wishing to try his hand at the business.

The forming of nuclei.

The introduction of queens.

Those present then adjourned to the apiary (which, by the way, is a very nice one, containing 52 colonies, situated on a green lawn facing to the southward) for work, or most of us to see how work could be done. Mr. Eaton being absent, the first work fell on Mr. Guisinger, who, with the necessary implements for such work, attacked an old-fashioned box hive of huge dimensions, and in an incredibly short time had the bees and such of the comb as was fit, encased in two hives of the latest improvement. The little bees were somewhat confused at first, but soon went to work fixing up for house-keeping in their new home, which they will undoubtedly enjoy better than they did their old one.

Mr. Eaton having arrived, he went to work to try his hand on (with the exception of a top and bottom, and a few sticks placed crosswise) "nature's own hive," an old linn gum, and in a very masterly way accomplished the work assigned him. This completed, the association adjourned for dinner.

Just at this time quite a cluster of bees was noticed on the body of a large cherry-tree, which attracted the attention of all present. On examination it was found to consist of worker-bees heavily laden, and others still alighting, and seeming as contented as if in their hive; the topic of discussion now was, "What attracted the bees to this place?"

After partaking of a bounteous dinner, prepared for the occasion by the "better halves" of sirs Bolton and Guisinger, and the lady friends present, all took a view of Mr. Guisinger's apiary, which is but a short distance from Mr. Boulton's. This apiary contains some thirty or forty colonies, and shows by its condition that its owner has not been *asleep*.

All then returned to Mr. Boulton's, and the third hive was transferred in about 15 minutes. The remainder of the programme was carried out by different parties. F. M. BLAKEMAN, *Sec.*

Ottawa, O., May, 1884.

WHAT TO DO WHEN YOU WANT HONEY RATHER THAN BEES.

PROF. COOK GIVES US SOME IDEAS IN REGARD TO RESTRAINING INCREASE.

I HAVE just been reading in the *Rural* that Prof. Cook recommends putting new swarms into other hives, to prevent increase. Now, if not asking too much, please inform me how he does it without having the old colony destroy the new. E. E. BABCOCK.

Elroy, Juneau Co., Wis., May 12, 1884.

Prof. Cook replies as follows:

For several years now we have prevented increase of colonies when desired, with few exceptions. In nearly all experience with bees, rules have quite enough exceptions to verify them. Our method, as given in the *Rural New-Yorker* several years ago, is as follows: Our first colony that swarms leaves hive No. 1, and is hived in a new hive. This, of course, gives one increase. Swarm No. 2 is hived in hive No. 1, after the queen-cells in the latter are ALL carefully destroyed. The few bees now in this hive make it easy and quick work to find and destroy *every* queen-cell. After swarm No. 2 is given to this hive, the latter will contain the old brood with the few bees left in the hive, and the second swarm with its queen. Thus the colony is just as strong as before, only, as the bees are in a new hive, and in a changed position, they seem satisfied, and will proceed to the business of storing, and the swarming impulse will be cured, and will very likely not appear again if proper room is given. When colony No. 3 swarms, the swarm is hived in hive No. (2), colony 4 in hive 3, etc.

Sometimes, rarely, this has failed to bring success. In such cases I think it is likely the hive was suffered to become overcrowded; or, from lack of shade, possibly overheated. Unless sufficient room is given by extracting, or by giving abundant sections, swarming will always occur in times of a great honey-flow. It is also true, that colonies will swarm out of hives which are overheated, so that these two points are to be carefully heeded or else the above method will not avail. The leaving of a queen-cell may also tend to disquiet the bees; but on the whole, this plan is one of the best, if we desire to leave the queens in all the hives, and at the same time preclude increase of colonies.

Lansing, Mich., May 21, 1884. A. J. COOK.

Thanks, friend C. I believe the above answers nicely, unless the bees get the swarming mania, such as friends Hasty, Doolittle, and others have written about. In that case they overstep all the rules laid down, and do about as they please, even to swarming without the queen—at least, I believe some claim they do. So far as reports are concerned, I believe the above process, as you say, about the best plan we have, especially for one who has had but little experience in the matter.

BEE CULTURE IN KANSAS.

Another Plea for Hybrids.

FROM ONE TO 13 BY NATURAL SWARMING.

WE submit our report for last season. We closed the season with 46 colonies (14 colonies spring count), and 2500 lbs. of honey, mostly extracted. Last fall we sold eleven colonies, leaving us 35, all of which wintered in good condition. Two colonies were queenless; 12 were wintered in the cellar, and the rest on their summer stands, and all protected with chaff above, and hay packed around the hives. Those wintered in the cellar came through about twenty per cent the best, although our cellar is a very cold one. The mercery stood between 30 and 40° the most of the time, and at one time as low as 28.

From our experience and observation last year, W. Z. Hutchinson said in GLEANINGS, some time early last autumn, just about what we were going to say. That is, we do not want any more metal-cornered frames in ours; that hybrids are the best workers in the sections, and that natural swarms have the "get up and get" to fetch in the honey, and are not half the trouble of any other means of increase that we have ever tried. Last season we started out to work for increase in the main, but we didn't intend to refuse any surplus honey. We did not expect to get nearly as much in the outset as we did. We made a few nuclei in May, about the same time the bees swarmed. We did not take brood to build up the nuclei. We kept them booming by feeding till the first of June; and from that time on until about the first of August, they made enough to live on. Then came heart's-ease, which lasted about 4 weeks, and from which we obtained our surplus.

Another thing we wish to say in favor of hybrids over the pure Italians. With the former, in future, we shall not feel so nervous when the sections are ready to cap, fearing they will come out, as we shall when the Italians are in the sections. With us they swarm too much; for instance, one pure Italian queen came out with four swarms during the season, as follows: May 24, June 28, July 12, Aug. 26. This queen and her swarms increased to 13 strong colonies, and they would have probably increased to 20, but we stopped several swarms by taking their queen-cells, extracting all their honey, and scattering their brood in the upper and lower stories. We couldn't keep this strain of bees in the sections until they were finished, at all. The old queen of this lot left the sections mostly full of brood on different times—the only instance we ever found brood in the sections. We had, during the season, 20 natural swarms. We gave a frame of brood to some of the first swarms, but not all; lost more by absconding. The first swarm came out the 24th of May; the last swarm, the 10th of September; highest yield of extracted honey from one colony, 208 lbs. (1 hybrid May swarm), 72 lbs. in 1-lb. sections. Best yield was made by a second swarm, which came out the 2d of June, so you see an after-swarm in May or June in this locality is not to be grinned at, if they have a good queen. Bro. Root, don't you think we had good luck? If there was any luck, I know we had to work mighty hard for it, and putting out feeders after almost every one had gone to bed, and taking them up at daylight, sponging off the alighting-boards to prevent robbing, keeping things right up, and neglecting nothing that should be done. Hard work, real backache work at times, and your two A B C scholars of two years ago have not learned it all by a long way, but we have learned one thing; as somebody said, it takes eternal vigilance to succed in bee-keeping in Kansas. You have got to be on hand with your eyes and ears open, and your sleeves rolled high up.

Now, Bro. Root, I have said *we;* but to be frank about it, I am like the fellow who killed the bear. My wife did most of the work in the apiary herself, last season.

The imported queen and 9 oz. of bees we received from you the 30th of last June built up on two frames of brood, and gave a surplus of 5 lbs. of extracted honey from the upper story. We think lots of her. They brought in the first pollen of all our bees. Her hive is full of brood. Drones are hatching, and the indications are she will swarm the first of all. The spring is cold and backward; the first pollen came in the 21st of March, 8 days later than last spring. We sold our extracted honey at 16 to 20 cts. per lb.; comb honey from 20 to 25 cts. per lb. All is sold except some we are keeping for feeding. We are going to feed frames of honey instead of syrup this year. M. F. TATMAN.

Rossville, Kansas, April 21, 1884.

Yes, friend T., I do think you had good luck; and what I admire about your article is, that you tell just how your luck came about, and it will be a recipe whereby your neighbors and everybody else may get it. It is true, one has to work and scratch for good luck, but that is the nicest part of it. "In the sweat of thy face shalt thou eat bread," etc.

BEE-FEEDERS, DOCTORS, BEE-KEEPERS' HATS, AND ——.

STILL ANOTHER IDEA IN REGARD TO BEE-FEEDERS.

MY most satisfactory feeder is a vessel with a float; but as I am not fully satisfied with any feeder noticed in GLEANINGS, A B C, or elsewhere, I have constructed — in my mind — the "Ideal" feeder — a tin can, long but shallow, with an outlet for the honey or syrup, so large as not to be easily clogged by motes (say $\frac{1}{8}$ inch), but the outflow regulated by a pinhole for air in the top (atmospheric pressure).

WHAT KIND OF A HAT SHOULD A BEE-KEEPER USE?

Some time ago I concluded my bees were degenerating in amiable traits, so many of them tried to sting me as I sauntered about the hives. Now they are all right again. What is the explanation? A change of hats. Every bee that flew against my straw hat got raving mad, and went for me with persistent fury. As soon as I suspected the cause, and substituted an old soft wool hat for my straw one, they would bump and bump against it without losing their temper.

MRS. COTTON'S $4.00 OUTFIT.

I fully expected to be in Blasted Hopes; but my few colonies are doing well. The first money I ever spent in bees was $4.00 sent to that Maine woman. That money was "blasted hopes," although I have not tried her system. I could not employ an architect to construct one, and so lost my money.

A BEGINNER.

Friend B., as a rule I am opposed to theory without practice; but this time I believe you have constructed a pretty good thing in your mind. I am going to claim priority of invention, though, after all. Just listen. Years ago, when I had feeding on the brain, to use a little slang, I purchased a tight alcohol-barrel and dissolved a barrel of coffee sugar in water and poured into it. I arranged a shallow tin vessel, perforated on the bottom, and attached to the stem of a molasses-gate, so I could screw it into the bung-hole of a barrel. While the syrup stood by the side of a bee-hive, this shallow feeder lay just between the upper and lower stories of a strong colony. The idea was, they could help themselves. In course of time, however, the syrup did not get out fast enough; and to facilitate matters I bored a gimlet-hole in the upper side of the barrel. Of course, the air went in, and with such force that it made a shrill whistling noise. By plugging this hole I could give the bees feed just when I wanted to, and just as fast as I wanted to. In case it came too fast I had an empty hive underneath, waxed so as to hold syrup, and in it a float. With this arrangement I made the bees build combs, and fill them, and seal them over, and these combs were then given to colonies needing stores. The arrangement worked beautifully; but as I did not commence it until frost came, a good deal of syrup was consumed in keeping the whole establishment up to blood heat, or pretty near that, so as to keep comb-building going on. Quite early, during a frosty morning, the vapor would ascend from this hive, as we often see it rise from a manure-heap. Now, although I discovered that letting air in, in the way I have told you, regulated the flow of honey, it never occurred to me before that we could take advantage of this. If you let syrup through a small orifice it soon becomes clogged or gummed up, but I believe air would pass through the smallest pinhole, and never clog. Who will work out the idea?

I believe the kind of hat makes a difference, but it seems to me you have got it the wrong way about. A few mornings ago bees flew at my soft drab felt hat, and stung it so full of stings that I meditated pulling them out to sell to the doctors. By the way, did I ever tell you the doctors are buying up bee-stings? Friend House sold 1000 stings for $5.00 a few days ago, to be manufactured into medicine. I did not taste the medicine, but I have no doubt it was good. If doctors are ever in need of something that will "take hold," I should think "extract of bee-stings" would just do the business. Whether they use it for curing rheumatism or not, I can not say. I throw out the suggestion as a new department to our industry. It occurs to me just now, that friend House said I shouldn't tell of it; but you see it is too late, as I have got it all written down. Now, then, about the hats. What kind of hats are least obnoxious to bees, especially when they are spoiling for some cause for getting up a fight?

I do not know but I might have said something about your concluding item, friend B.; but you see you have moved me to talk already more than my share, so I think I will stop right here and not make any comments in regard to your $4.00 investment.

P. S.—It just now occurs to me, when you settle down on the most appropriate hat for a bee-keeper to wear, we ought to have them for sale in the counter store, and I was thinking of putting them on the five-cent counter; but the prospect for honey is so good now I do not know but we might afford to go a little higher, if we could succeed in getting a hat that would never irritate the bees.

PRODUCING AND SELLING HONEY.

FRIEND WILTSE CONSIDERS THE MATTER A LITTLE.

"HOW much does a pound of honey cost?" is the heading of Mr. Doolittle's article in the May No. of GLEANINGS. "Selling honey," is Mr. Hutchinson's. These two articles look well in print, and they help to fill the pages of GLEANINGS—two strong arguments with the editor of a journal, when items are scarce. With commendable zeal for the welfare of the fraternity, each has endeavored to impress his views upon the readers of GLEANINGS, and, so far as the writer is concerned, he is ready to admit the truthfulness of what they say, so far as it relates to themselves. The conditions under which these two men do business, and the circumstances that surround them, differ very materially from those that surround the masses of bee-keepers, and render that which is untruthful to many others, true to them. Mr. Doolittle has to pay cartage, and he has to pay rent for ground in which to establish his apiary. Most apiarists have vacant grounds near their houses, which they ornament by dotting their surface with hives of bees, and they generally keep teams to use in the pursuit of other lines of business, which they press into service when the interests of the apiary demand it. These teams would have to be fed and cared for if not in use, and are, therefore, of but little more expense to their owners than they would be if not used. Under unfavorable circumstances, no one can manage 100 colonies of bees successfully; and nine-tenths of those who can manage 100 colonies successfully when the conditions are favorable, would fail to attain a position paying a salary of $1000 a year, for lack of the necessary qualifications. Owners of farms, in sections of country where the main honey-flow is in August and September, can employ their farm-hands in their apiaries during these months with little detriment to their farm interests; for their small grain is then harvested, and there is little to do. In June, when the flow of basswood honey is good, and the pressure of work great, some inconvenience arising from the labors of the apiary is felt. Ordinarily the occupation of apiarist approaches that of sinecure the closest of any known to the farmer.

SELLING HONEY.

But little charity enters into the business transactions of men. If the necessities of a man are such that he must sell a given article of any kind, advantage is taken of that necessity, and he is compelled to make it for the interest of the purchaser to handle the article, or no transaction will follow. If the salesman is inexperienced, it is at once known to the person desiring to purchase, and still less is offered for the commodity. Under such circumstances a sale at reduced rates is generally made, and the party selling becomes dissatisfied with his business, and, naturally enough, he has allowed himself to be out-generaled, and his profits have passed into the hands of another. An experienced man of business should see at a glance the tendency that affairs are taking, and, being the boss of the situation, seek a place where business can be transacted to his own interest. Opportunities of this kind occur in every community, and the tact by which salesmen get the confidence of strangers is readily acquired. Probably the honey that Doolittle parted with at 6 cts. per lb. would have brought 10 or 12 cts. elsewhere. Probably the honey that Hutchinson put in his half-pint pails would have sold elsewhere as readily from a half-barrel.

OUR OWN EXPERIENCE.

From early childhood to the present time, we have been familiar with bees. Never have we known a time when honey could not be sold at remunerative prices. We have secured yields, varying from nothing to 122 lbs. per hive, and these variations are not due to any superior skill at one time, or lack of it at another, but principally to the favorable or unfavorable conditions under which the bees had to labor. We have noticed but little difference between the amount of honey stored in 1-lb. frames and the amount stored in boxes holding from 4 to 8 lbs., when the conditions were the same, and the honey sells as readily from the boxes, if they are allowed to return them after the honey is used. We realize 20 cts. per lb. for our comb honey, less a commission of 10 per cent. Our last year's crop was about 1600 lbs. comb honey, and 8000 lbs. extracted. The latter we put in half-barrels, 10-gallon kegs, and quart jars. The last retails at 60 to 65c. each. The honey in kegs we sell at from 12½ to 15 cts. per lb., furnishing the keg free, and sometimes paying freight, sometimes not. What we do not find sale for, which is the main part, we ship to various towns in Kansas and Nebraska, to be sold on commission, allowing 15 per cent. It retails at 12½ to 20 cts. per lb., varying in price as the distance from home varies, and as the freight varies. On the whole, after the freight and loss and commission are paid, we realize about 12½ cts. per lb.

JEROME WILTSE.

Falls City, Neb., May, 1884.

Friend W., we are glad to see you again. It sounds just like you, to intimate that articles for our pages are scarce, and that friends D. and H. have not given the subjects on which they write quite as much study as they might have done. Well, perhaps you are right a little, any way. I do not think friend D. pays any rent on his place, and I am inclined to think he has a team of his own; but for all that, the place and the team ought to pay something for the money invested, as they would if they were hired. Your thought, that farmers often take care of bees and the honey-crop when they would not do much otherwise is a good one, and I believe it refers to people in other kinds of business as well. A great many farmers and their wives and daughters spend quite a little time playing croquet, so as to get outdoor exercise; and many who keep bees—that is, on a small scale—occupy just about as much time with them as the others do with their games.

Heads of Grain
FROM DIFFERENT FIELDS.

CHOOSING A LOCATION BEFORE SWARMING, ETC.

IN regard to bees hunting a tree for a home before they swarm, I say some of them do, as for instance, I had a swarm come out the first of June, and they never alighted, but started to the tree. I threw water, and that did not stop them; on they went, and I chased them to a neighbor's woods, and they went over their tree some ten rods, and turned down toward the ground, and went back to their tree, and went in. Again, I had two swarms come out together, and they went off southwest, and I followed them to a tree in sight of my house. There they divided; a part of one swarm went back to their old hive, and the rest went in the tree. Again, I found a lot of bees clearing out a tree, about 15 feet high from the ground, and shortly I heard a swarm come out and start for the tree. I stopped them with water, and hived them, and the next day they tried swarming again, and I stopped them and hived them again, and then there came a rain and kept them for two days, and then they stayed. But there was no swarm that went in that tree.

I should like to tell the folks how to find a bee-tree in the woods. When you line a swarm, and think you are close to them, or get a cross line of them, then look at the sun; take your line toward your tree; and every tree you look at, place the sun in the top, or behind the tree; and if there is a swarm in that tree, you can see them twenty rods off, in a clear day. Between ten and two o'clock in the day is the best time to hunt them. C. L. HANSEMAN.

Portland, Ionia Co., Mich., Feb. 11, 1884.

Friend H., you have given us evidence a little more conclusive in one part of it than we have ever had before, if I remember correctly. You saw the bees fixing the tree preparatory to going into it. They tried two or three times to go to the tree, but you prevented them, and afterward you found out that the tree was not occupied. Thanks for suggestions in regard to bee-hunting.

TOP OR SIDE STORING.

There seems to be a controversy as to which is the better way to have bees store honey—at the top or side. Quite a number of years ago I settled that point to my satisfaction. I got a theory or notion in my head, that if, instead of extracting from the upper story (as is the practice here), I would make the main hive larger, containing 18 frames with foundation, instead of 9, the usual number. I put a division-board in the center, put in a new swarm, and when the brood-nest was full I removed the division-board. I thought the bees would, of course, commence making honey sooner at the side in their own hive than in an upper story; but to test it I put on an upper story also; but to my surprise they filled the upper story before they put an ounce at the side. They say that one swallow does not make a summer; but I have tried the same thing time after time, with the same result, which proves to me that over the brood-nest is the place the bees prefer to put their surplus honey, and consequently the best place. JOEL HILTON.

Los Alamos, Santa Barbara Co., Cal., April 7, 1884.

Friend H., although I pretty nearly agree with you, I do not think your experiment quite a fair one. If you give an upper story at the same time you give them room right beside the combs, of course they will go above, for the heated air from the cluster rises, and they naturally go up with it. Had you not permitted any room above at all, they would have been obliged to work each side. If you put a case over the brood-nest containing only a single tier of boxes, if the colony is strong enough to fill it completely with bees they will readily go over into boxes placed beside the brood-combs; and by this means we should get more boxes arranged so as to be all nearer to the center of the brood-nest than if we had the same number of boxes all above the brood, and this is the plan upon which friend Doolittle works. Our friend who writes below strikes upon the point you make.

If I take a three-story hive in the best part of the honey-flow, and raise it up, putting one under, will the queen lay eggs in the lower part, or will she go down into the lower story at all?

I would not give one dollar per hive to insure them to winter without loss. I bought me a pair of scales, and weighed all of my bees; and if I had not done so I should have had dead bees before this time, as some hives weighed 96, and one 41 lbs.; weight of hive, 33 lbs. I gave two full combs of honey to this one, and they feel as heavy as they did when I housed them. Now, when I set them out in the spring I will weigh them out, then I can tell you how much they wintered on. N. C. BANK.

Greenwood, Cass Co., Neb., Feb. 22, 1884.

Friend B., if you should raise up the three-story hive, and put a lower story under it, unless the colonies were very populous, very likely the lower story would not be used at all, for bees, as a rule, go up rather than down, as I said above. In fact, where too much room is given by piling up two or three stories high, the bees will often crowd into the upper one, leaving the lower combs entirely deserted. Your idea of using a pair of scales to equalize the weight of your hives is a good one.

BEES KILLING EACH OTHER.

I had something happen to one of my hives last summer which I can not find in the A B C, and I wish you would help me out if you can. It is this: The bees were slaying one another at a terrible rate. At first I supposed it was robbers; but it was not, for I closed the entrance, and then they crammed the opening so full that they could not come out. There were no bees trying to get in; they were all trying to get out of the hive, and they would not try to fly, but crawl a little way from the hive and die. I smoked them, but it was no use; for as soon as the smoke was gone it was all the same.

SELLING EXTRACTED HONEY.

I see in GLEANINGS, on page 20, 1884, that A. A. Fradenburg can not sell his extracted honey. It is the same here. There is one man here who has spoiled the trade for honey. I have some put away that I shall send you, to let you see what he sells for honey. I sold all I have had so far for 25 cts. per pound, and I will not sell for less.

Sandusky, Ohio, Feb. 27, 1884. F. SCHNECKE.

Friend S., it is a little difficult to explain what you mention, without being able to see the bees themselves. The way they crawl out of the hive, looks as if they had been smothered. I presume you are sure that is not the trouble. Is it not possible some truant swarm forced their way in there, and that in stinging them to death they clogged the entrance and thus induced suffocation? I have known such things to happen.—I should infer that honey sold pretty well in your locality, if you get 25 cts. per lb. for all you can furnish. It is a fact, that one injudicious bee-keeper may do much to prejudice people.

USING OLD COMBS FOR NEW SWARMS.

I had very bad luck a year ago last winter; I lost 55 swarms; last winter I lost 35 swarms; have 10 left; they had the cholera. Will it do to give young swarms those combs? About one-half of them are half full of honey, capped over. I have about 400 combs. Could I not sell them? Two-thirds of them are clean nice brood combs. I have more than I can use. I am going to build up again. I shall not give up yet. You remember you were at my place once. I often think of you. Now, as soon as I can get a dollar to spare, I am going to send for GLEANINGS. I lost a good many swarms this spring by spring dwindling. Bees did well last summer here. One man, Mr. Roop, at Carson City, Mich., sold 15,000 lbs. He had 200 swarms. L. REED.

Orono, Osceola Co., Mich., May 13, 1884.

By all means, use your old combs, friend R.; and even if the bees did die from them, it will not often make a bit of difference. Several experiments have been tried, and though bees died on a set of combs one winter, they wintered all right the next, even though they had the same stores. I would, however, endeavor to get the old honey all used up in brood-rearing if I could. When I visited you in your pretty home in the woods I thought you were one of the successful bee-men. We are very glad indeed to get so good a report from our old friend Roop. Hiram, why don't you tell us about it when you are prospering?

HOW TO PREVENT INCREASE.

This question is asked in March GLEANINGS by A. Landley, page 168. I can give my plan, which probably would have to be varied in his locality. The principal part of our swarming is in July and August; surplus honey is stored in August and September. I give all the room and ventilation I can, shade as best I can, and all swarms that come out before they begin to store surplus honey, I hive on the old stand, moving the old colony to a new stand. This plan prevents after-swarms, inasmuch as the worker-bees go to the swarm. After surplus begins to come in, I hive the same way, except I just lift the old colony back 2 or 3 feet, and hive the swarm on foundation or starters. In about two days after hiving I lift out all the combs from the old colony, shaking the bees in front of the swarm; put on the sections, and they will be filled quicker than if the swarm had not issued. Now you have a set of combs to use; if you have any weak colonies you can strengthen them, or fill up your nucleus hives. If you have none of that to do, set the hive, comb, and all, on another colony, and extract from them.

One drawback in selling bees is, we don't want to sell at home on our own range; and to advertise, it will take about as long to get a trade started as it does to create a home market for honey, for the reason that those who want to buy will almost invariably go to the old veterans. I tried it once in selling dollar queens. I sold 5 from advertising, and 60 or 70 to my personal acquaintances.

R. ROBINSON.

Laclede, Fayette Co., Ill., March 20, 1884.

WHAT SHALL FRIEND L. DO WITH SWARMS THAT SWARM AGAIN?

Please tell in GLEANINGS what I must do with my bees. Two swarms caught this year, one on the 19th of March, and the other on the 29th, are sending out swarms. I have at present 22 colonies, and do not wish to increase. The queens of the two hives had their wings clipped, and the bees had to come back. I gave them another story, and thought that all would be right; but one swarm came out again today. It clustered on a tree near by, and came back after a while. The other is quiet yet. They have plenty of room, and the honey is getting scarce, as I notice they are turning out drones. The swarms came out at least 8 or 10 days ago.

I have some bees in small hives (called the Dixie) that I bought this winter. I had intended transferring them in the Simplicity after they had finished swarming; but when that time came the high water was on us, and the hives were raised on a scaffold, and put rather close together for want of room. Since then the bees have filled their hives, and I can not extract on account of robbers, that are very bad, and I can not put on another story, as I have no hives nor frames to fit over those. I take GLEANINGS, and have derived much good from it. M. L.

Bayou Heron, La., May 15, 1884.

Friend L., that is one of the problems, to get honey instead of bees; and when the bees take a notion, whether or no, it is one of the problems that has puzzled our oldest veterans. It seems to me that you did not extract the honey when the frames were full, and this has resulted in giving them the swarming fever. However, if they are killing drones your swarming is about at an end until you have another honey-flow. The fact that robbers annoy you, also indicates that the honey has, for the time, ceased. Now, when it comes in again, just keep the honey promptly extracted from the upper stories, and I think you will not have very much swarming. If you are going to control swarming, you must not only have upper stories and frames, but plenty of empty combs as well.

FRIEND POND'S REVERSIBLE FRAME.

I have just read with interest the Hetherington plan of reversible frames. It is a matter I am much interested in, and I have tried all the methods I have heard of. This method, it seems to me, has two big difficulties. The frames are fixed; that is, they have too little lateral movement; and then, again, our hive must be altered over, and we can't use the hanging frame and the new frame in same hive. I tried the plan of Mr. Howes, of tin corners or ends. That is too much trouble to change, when bars are covered with propolis. I am, however, using a frame that is simple, easy to operate, and can be used in any hive, and in connection with a hanging frame. I make it thus ⌶; one projection hangs on a regular rabbet, the other sits on a strip of folded tin set at the right distance from bottom. This idea, I think, you will like on trial, and believe it worth illustrating. You can use or make no use of it, as you choose; but it strikes me as being the simplest plan of any yet made known.

Bees are doing well now, but the season has been very backward for them, owing to constant rains in March and April. J. E. POND, JR.

Foxboro, Norfolk Co., Mass., May 20, 1884.

Well, friend P., yours has the merit of novelty, if nothing else. We could easily make such a frame with metal corners, and I am inclined to think the frame would stand pretty steady too. The upper corners at one end might need a spacing-strip, unless the arms were very accurate, and the frames very true. In that case I think it would work all right, and the frame would be just as well one side up as another. The idea seems to be a compromise between the suspended frame and the standing frame.

ANOTHER REVERSIBLE FRAME.

Since the reversible frame is receiving so much attention, I take the liberty of submitting my plan for the same. Into the bottom, at each end, are driven small brads or nails on which the frames rest. Probably the main objection to this method of reversing the frames will be the spacer, which is made of tin, and tacked to the end-board. By this plan any hive can be changed to a reversible-frame hive in a very few minutes by simply cutting off the supporting arms, putting in a spacer, and driving the brads into the bottom-board.

A QUESTION.

Is it not true, that the brood lie on their backs, and hatch out lying in that position? If so, if the frame be reversed, have the young bees the power to change their positien so as to accommodate themselves to the new "order of things"? If not, is it not a disadvantage to have the frames reversed? J. ARTHUR STAGG.

St. Paul, Indiana, May 19, 1884.

I do not think it is true, friend S., that the brood lie on their backs; but if it is, they can lie in other positions, for in transferring we turn the comb all sorts of ways, and the bees hatch out all right. I am sure this will be no disadvantage when reversing the frames. Your device is quite ingenious, but your frames at the top will be at fixed distances, or pretty nearly so, and then the bees would wax the frame into the spacer so it would be hard of removal. If the frames were made to go loosely into the spacer, the tops would be tipping about until the hive was crowded with bees and honey, and then they would be waxed so it would be hard to get them out as before. Again, when you put the last frame down, how are you to know the bottom stands just about where it ought to be on the head of the nail or brad? The idea is ingenious, but I do not believe it can be made a success practically. The Hetherington reversible frame is the simplest, in my opinion.

TARTARIAN CHERRY-TREES FOR HONEY.

I suppose many of you have noticed that bees get honey from early cherries, quite a few days before apple-blossom. Where they are short of stores this is a great help, and I have often wished we had a cherry-orchard in our apiary. Well, our friend who writes below has advertised black Tartarian cherry-trees at so low a figure that one of our nurserymen remonstrated, saying that budded trees could not be produced at any such price. I wrote to friend Kingsley, and he answers as follows:

HOW TO PROPAGATE TARTARIAN CHERRY-TREES.

Take your nice budded trees as they stand in the row, and bend them down to the ground, turning the tops up by placing a light scantling on each side; cover the trees well, except the tops, with soil and keep the tops trimmed well; each tree will send up from 8 to 12 young trees, which will root well if cut apart the following year. Trees raised in this way are in every respect as good as budded; and after the tree is grown, the sprouts which come up around are as good as any. I don't claim that my trees are raised as scientifically as this; but 'tis upon the same principle, and are fully as good.

I think other trees could be easily propagated the same way. I know that the trees I offer are *good;* I tried them before I offered any for sale, and saw them bearing. CHAS. KINGSLEY.

Benton, La., March 17, 1884.

After reading the above I submitted it to neighbor H., who is quite a fruit-grower as well as farmer, and he says they have raised nice bearing trees in the same way; and if he were to have his choice he would rather have such trees than the budded ones. If there is an objection to them, we should be pleased to have further facts. One thing is certain — we want more cherry-trees for our bees.

WHAT MAY BE DONE BY LIBERAL FEEDING.

Last fall I started with 4 swarms of bees in old common box hives, two of them well fed with honey, two others full of comb, with very little honey. Into the large hive I put another swarm of bees, both together about filling the hive; gave them last fall 25 lbs. of granulated sugar made into syrup, at the rate of a pint of water to 2 lbs. of sugar. During the severe cold weather we enveloped them in blankets, well sheltered from the north wind; in March we commenced feeding again with warm syrup; fed about 6 lbs. May 10th I looked them over and found the hive full down to the bottom-board, with two or three quarts of bees in this chamber. It was not only the heaviest of 7 hives, but, by actual count, three bees to one over any other hive. I look for the first swarm from this colony; took their other swarm the first of April, with from 1 to 5 lbs. of honey each; fed about 6 lbs. each; to-day they are full to the bottom-board. Apple-blossoms are abundant, as also pears and plums, cherries, etc. My bees are increasing rapidly; 8 out of 10 colonies of bees in this neighborhood are dead; many have lost all—10 to 15. W. C. BAILY.

Chatham, N. Y., May 22, 1884.

COMBS 8½ FEET LONG, ETC.

There is an old colored man here who has 5 coloies. He found three bee-trees last summer. I helped him cut two of them. There were sheets of comb in one of them 8½ ft. long, and 3 inches wide at top, and about 12 inches at bottom. We got 7 L. frames full, and one 3-gallon bucket as full as we could carry it, and about ½ bushel of empty comb. The other was not so good, as the tree burst open and threw the bees and honey all out on the ground, but we got a good swarm of bees. J. W. MARTIN.

Greenwood Depot, Va., Feb 18, 1884.

SWEET CLOVER; ALSO SOMETHING IN REGARD TO TESTING SEEDS.

You sent me a sample of your sweet-clover seed, to test the vitality, and I give you the result below. As one can not expect that every seed will sprout, we should take several things in consideration in testing seeds. The flowers of sweet clover grow in spines, and surely the lower flowers grow larger and stronger than the upper ones, and therefore produce a riper and larger seed. For this we have to make an allowance. Another allowance one has to make is that the plants are cut when the half is ripe, so one might expect that a little over half of the seeds may sprout. The seed you sent gave, from 100 seeds, 56 plants, and I can say it is *tiptop*. Besides this seed, I tested several other samples of the same kind, but there were none that came up to yours. One lot of seed brought only 25 per cent.

Last year I bought sweet-clover seed from different houses, and sowed them. Some came up, but did not grow, and as I saw in another bee-paper that some failed on clay soil, I investigated the matter a little more, and found that where sweet clover grew was a poor soil—gravel, or on piles of ashes. Even the strongest and most robust plants I found on ashes, and so I believe that where nothing will grow, sweet clover will, and it is useless to try to sow seed on clay or black loam. CHAS. FAUST.

Harvard, Ill., March 15, 1884.

Thank you, friend F., for your kind words; but I fear you are giving me more credit than I deserve. Our seeds are purchased from a great many different sources. Although we seldom purchase unless we first have a sample, we can not always get seed uniformly alike. Perhaps we happened to have a *good* lot when you came in. We have something like testing-boxes over our steam pipes to try all seeds; but as you say, there are so many things to be taken into consideration, I have not yet felt really satisfied with our tests. I believe it is a fact, that sweet clover grows better on a hard gravelly soil.

BEES BUILDING COMB WHILE CAGED FOR SHIPMENT.

My bees are working nicely, considering the cool weather, and one of the queens is laying profusely. One of the cages had a piece of comb in it half as large as my hand. This seems to be a little remarkable, as they had no opportunity to carry any thing in, out of which to make the comb. My bees are all doing well. The queen with ½ pound of bee I got of you on the 29th of last September turned out to be an excellent investment; her bees all have three bands, and she has built up a strong colony.

Z. M. COCHRAN.

Grafton, W. Va., April 7, 1884.

Friend C., we should like to have our cages all put in such a way that the bees would build comb *en route*, but we can not always do it. In the above case they had nothing but the Good candy and no water, if I am correct.

SOMETHING MORE IN REGARD TO FRIEND ROBBINS' STRAIN OF BEES.

Now, friend Root, I wish to say something about R. B. Robbins' strain of bees. I must tell you that there is a reality about them. The first I heard of them was through one of my neighbors who moved through that part from Indiana to Mifflin, Ashland Co., O. We are near neighbors, and he told me, on the way coming from Indiana, he stopped all night with a neighbor in that vicinity. He saw those beautiful bees, and he said they were very quick movers, and active in expelling robber-bees; were good honey-gatherers, and had their wings more elevated than the common bees, and were quicker in flight, and of great endurance. I was still on the lookout to see something in GLEANINGS, and at last it came. I am a stranger to friend Robbins, so you see I do not write for his interest, but I write what my neighbor Koch told me. Last fall near Mifflin a man cut a bee-tree and found the same strain of bees with plenty of honey, but the combs were too much broken to save the bees. The reason that they keep their purity or particular strain is, they are of a greater speed than the common bee, and therefore the queens are fertilized by their own drones of the same race in general. I am satisfied the way neighbor Koch described the bees; and the description in GLEANINGS is plain, that it is the same strain that friend Robbins has advertised.

Ashland, O., May, 1884. A. H. BAUM.

WHY DO BEES LOSE THEIR POLLEN AT THE ENTRANCE, ETC.?

I started last spring with five colonies of common bees; increased to 11; obtained 6 Italian queens from J. T. Wilson, of Kentucky. I lost two in introducing, also lost two colonies during winter. They were on summer stands, packed with straw. I took over 100 lbs. of comb honey; sold at 15 cts. per lb. The A B C I received of you is better than I expected to get. It is *the* book for bee-keepers. I could not get along without it. Bees are now carrying in pollen from hazel and elm. They have any amount of brood, and all are strong, with plenty of honey.

I notice the bees lose a great deal of pollen at the entrance; I did not notice any thing of the kind last summer or fall. What is the cause?

Martin, Tenn. E. W. STAYTON.

I have noticed the loss of pollen too, friend S., and sometimes I have thought it was because the entrance was inconvenient. Again, there are certain hives of bees that seem to have a way of putting on bigger loads than they can get into the hives with; and the consequence is, the pollen-balls will always be found around their entrances.

OYSTER-CAN BEE-FEEDER.

Here we are with another bee-feeder; yes, a valuable one that costs nothing—one that I consider as good as the "bread-pan" feeder in every respect, except for "nesting." We will call it the "oyster-can" feeder. It is simply an oyster-can opened on the side, and the edges trimmed off.

HOW TO USE THEM.

I feed in the upper story by putting a piece of old comb in the can for a float, and another piece at the outside for the bees to crawl up on; put in your syrup, and call up the bees. It gives perfect satisfaction. H. A. SIMON.

Lordstown, Trumbull Co., O., Feb. 8, 1884.

Your idea is hardly new, friend B.; but for all that, I know that such feeders answer very well. The objection you mention, that they don't nest, is a very important one; and again in regard to expense, bread-pan feeders are only 4 cts. each by the hundred; and can one even fix an oyster-can so as to look neat for less than about the above amount? The bread-pan feeder also holds about wice as much as the oyster-can.

SOME QUESTIONS CONCERNING THE HOLY-LAND BEES.

Will the Palestine bees build nearly all worker comb after the queen is more than one year old?

I am not aware that the Holy-Land bees are more disposed to build worker combs than the Italians or common bees.

Will they build all worker comb if they have a young queen (like the black bees), or will they build part drone comb (like the Italians)? How much drone comb do they usually build?

We have not had experience enough to say whether they build comb like Italians or the blacks or hybrids, but I believe they are a little more disposed to commence at the top and build downward, as the blacks and hybrids do. You know we use fdn. exclusively.

Will they work in the surplus arrangements above the brood-chamber as readily as blacks and hybrids, or are they inclined to stick to the brood-chamber like the Italians?

Will they work above through a small opening as readily as the black bees, or must they have ample openings to the sections like the Italians?

Will they work above as readily as the Italians?

I can not answer, as we do not raise comb honey. Perhaps some of the other friends can.

Can drones be raised from an untested Palestine queen the first season?

I think that, as a rule, you will find it difficult to get drones the first season from any kind of queens.

Could you furnish Palestine drones by the pound, or sheets of Palestine drone brood nearly ready to hatch, and at what price?

Neighbor H. can furnish you drone brood of any of the races. I suppose the price will be about the same as for worker brood.

Are the Palestines invulnerable against the attacks of robber-bees, as some have claimed?

These new races are splendid to defend themselves against robbers.

Are they very cross? Is it next to impossible to remove the sections from the hives after they are filled, and is smoke of no use in subduing them?

You will find some difficulty in moving the sections, unless you understand just how to handle them. You can drive them with smoke, if you work it right.

Are the Palestine bees as long lived, and will they, if given room so as not to swarm, maintain as strong swarms as the Italians?

I should say they are longer lived, and would maintain a heavier force of bees than the Italians.

How are the Cyprians in regard to the above ten points, and what is the chief difference between them and the Palestines? HARVEY BACKUS.

Slocum's Grove, Muskegon Co., Mich.

The Cyprians are very much like the Holy-Lands.

A WORKER-BEE FROM A DRONE-LAYING QUEEN.

I reared a queen late last autumn, which became a drone-layer. To-day I got a queen from P. L. Viallon for that swarm; when I came to introduce her I saw a worker-bee gnawing off the capping, and a perfect worker-bee crawled out. I examined the other capped cells, but they contain all drones. Now, if the drone-laying queen is not the mother of that bee, where did they get that egg? Was it stolen from another hive? This I have seen with my own eyes. I had some years ago something of the same experience, but was at that time too much of a beginner to report it. H. M. MOYER.

Hill Church, Berks Co., Pa., April 21, 1884.

Friend M., it is not very unusual for a queen to produce nothing but drones for a time, and then afterward go back to worker-brood; and young queens, when first fertilized, often produce nothing but drones for a while, and finally settle down to regular worker-eggs. Your case is much like the latter, only it was a longer while before the queen got to laying regular worker-eggs. It would seem that the spermatozoa must have been in some way retarded, and did not fulfill their office of fertilizing the eggs as they were laid. This whole subject is one involving much mystery, and we have yet much to learn about it.

HOME-MADE PERFORATED HONEY-BOARDS.

I have recently had made at the blacksmith shop, an instrument to make perforations in sheets of tin, to go between upper and lower frames of Simplicity hive, which I think will supply a want among a great many bee-keepers who, like myself, do not care to pay $25.00 per hundred for zinc when something else will answer the same purpose at half the price. This instrument is made from a common gouge, bent and ground to 3-16 inch wide by ¼ inch from heel to point, thus:

The points are bent down at right angles to your sheet of tin, and rest on the top-bars of the lower frames, thus allowing room over the frames for the bees to look after the festive moth, and prevent sticking your separator tight with propolis, so that a screw-driver is necessary to take it off, and a mallet and block to straighten the kinks after it is once wrenched from its place. For side storing, the Jones separator would be excellent; but to go on top, any thing that will lie flat on the frames is a nuisance—at least, such is my experience. ROBERT VANCE.

Memphis, Tenn., April 19, 1884.

Your idea is tiptop, friend V.; but it seems to me it would be quite a little task to perforate your tin or zinc sheets after you get them, will it not? Perhaps so many perforations would not be needed as in the sheet metal we have for sale. Plain zinc sheets will cost you about 10 cts. each, if I am correct, and then you will have 15 cts. for making the perforations. Perhaps light tin will do equally well, but it is not so stiff, and is more apt to get rusty. We can furnish sheets of tin large enough for the purpose for 7 cts. The idea of that point turned down to support the metal just so far above the frames, is quite ingenious. It seems to me your gouge will bend the sheets of metal out of shape, will it not, unless you have a metal support underneath?

SIMPLICITY, OR ONE-POUND HONEY-BOXES.

We copy the following from the secretary's report of the Central Michigan Bee-keepers' Association:

E. N. Wood represented the firm of W. B. Stone & Co., of North Lansing, manufacturers of sections, and apiarian supplies. Mr. Wood stated that the one-piece sections are the popular section; that nearly all other styles are going out of use fast; that the size of box varies much in different localities, but are coming down fast to the sizes, 4¼x4¼, 5¼x5¼, and 5½x5½. Mr. Wood stated that two-thirds of all the boxes made were 4¼x4¼, and that a large majority of the 4¼x4¼ were made 1½ inches deep, and that they were making them that size and depth for their own hives, unless otherwise ordered.

THE SWARMING-OUT MANIA.

Two swarms of my bees are missing, and the cause I can not understand. They were last-year's swarms. The comb was very nice and clean, and last week they appeared to be as strong hives as I had. On Saturday I looked at them, and found them all gone. I examined them, and found the comb all nice and clean, and a good stock of brood in all stages, from the egg to nearly hatching, and a good supply of honey, nice and clean, and no dead bees to be seen at the bottom of the hive, or at the entrance. Every comb was in its place, and no robbers to be seen, but not a bee left, dead or alive, in the hive, except a few just hatched, or hatching. I never had such a thing happen me before. Are such freaks common? and what is the cause? Please give me your opinion. W. H. **SHEDD.**

Watseka, Ill., Apr. 22, 1884.

Friend S., such cases as this are not very common, although they do occasionally happen in spring. It seems to be a sort of craze that gets into an apiary or neighborhood, for at times it will seem to be quite frequent, and then again no more will be heard of it for years. It is a little unusual to have every bee missing, as in your case, and it seems hard to imagine what should possess them to leave honey, pollen, and brood, and every thing that bees are supposed to ordinarily consider most dear. I do not know what to advise unless it is to give the combs to other colonies, or put some more bees on them, if the bees could be had.

HONEY FROM CLOVER-LEAVES.

I have read in GLEANINGS of bees working or gathering honey from wheat stubble, but nothing about gathering honey from clover-leaves. Last fall, after frost had killed nearly every thing, as we were walking through the wheat stubble we heard the hum of bees *all* around; we stopped and looked, and found bees on the clover-leaves, all over the wheat-stubble field. We picked, and examined quite a number of clover-leaves, and on some of the leaves we found a very few parasites, and saw a little dew on those leaves having the parasites, which we tasted, and the dew was very sweet and nice; but the leaves that had no parasites on, we could not see any dew, or taste any sweet.

Mears, Mich., March 24, 1884. L. W. **DAVIS.**

DOES BEE-KEEPING PAY?

Now, I do not mean to say I have made money at it, but I have secured honey for my own family, and enough to sell to pay expenses. Of course, we have our bad seasons, like the past, when bees did not do much; but, of course, what we did get was worth the more. I claim, that the time spent with a few colonies of bees on a farm is not wasted. I buy my sections, and make hives and frames to hold them, at odd times, and during bad and stormy weather. I keep from 12 to 20 colonies, as the case may be. Of course, I don't have so much work with them as a person up north would. I don't have to lug them in and out of the cellar, or bank them up with snow or sawdust. When a swarm comes I hive it and set it in the shade of a tree, and that is all the attention it gets from me, except to take the surplus honey, if there should be any, as I never disturb the brood-chamber, unless I see signs of worms. If a swarm should be so unthrifty as not to store enough for themselves, why, I never feed them. I go on the principle of the survival of the fittest. **GEO. W. SARVER.**

Taylor, Williamson Co., Texas, Feb. 17, 1884.

AN IMPORTANT FACT IN REGARD TO SOUND TELEPHONES.

Can a person take an enunciator with say 10 or 12 feet of wire, and attach it to a telephone wire and transmit to either end of telephone? I have no extra one to try with, but I have found that one can get a message anywhere on the line by taking hold of the wire with the teeth, but, of course, can not return an answer. Suppose the wire crossed over some place where you were at work, and you wanted something at one end of the line, if you could attach an enunciator to the wire, and could send a message as well as receive one, how convenient it often would be! **MRS. H.**

Los Alamos, Cal., May 6.

My friend, I have never tried the experiment just as you state it, although we have tried something quite similar. Three enunciators can be put up in the form of a triangle, with one at each angle; and I presume if an angle were made in the wire, the enunciator would work all right sending the message both ways. Your idea is a new one, and it seems to me might be quite important, that by holding the wire in your teeth you can get the message. There has been much difficulty in working telephones in noisy rooms; for instance, they are worth nothing in a mill or factory. Now, perhaps by taking the wire in the teeth, or something expressly arranged for the purpose, one could hear the message where the noise would drown it otherwise.

TO TAKE BEE-GLUE FROM THE HANDS.

Wet and soap your hands as if you were going to wash them in the common way; then pour ½ teaspoonful of aqua ammonia (spirits of hartshorn) in the palm of your hand, then rub over the hands, and it is gone. **C. KENDIG.**

Naperville, Ill.

I have long been aware, friend K., that ammonia would dissolve bee-glue. So, in fact, will any alkali. But ammonia does it quickest, because it is such an active agent; and if used a great deal it is apt to make the hands sore unless you are careful to have plenty of water with it. We have large bottles of it on our ten-cent counter, and our hands here in the factory are in the habit of using it considerably where they have any work in hand that requires something that will make the soap "take hold." Benzine, also, will remove propolis; but it has an unpleasant smell, and does not leave the hand feeling as nicely as when a little ammonia is used with soap and water.

HONEY FROM PEACH-TREE LEAVES.

I see on page 310 of GLEANINGS, where Mr. Arch. A. Moore's bees have been working on peach-leaves. Such has been the case with my bees; but the leaves have been covered with aphides, and the bees worked on the leaves mostly in the morning. The leaves are all curled up now from the aphides' work. My bees are gathering honey very rapidly from ratan. Some are extracting—those that are situated right in the midst of ratan. The honey is beautiful.

POLLEN ON BEES COMING OUT OF THE HIVE.

I notice my bees entering with just a little pollen on their legs, and others coming out with about the same amount on theirs. I concluded, that in their haste to gather honey they won't take time to deposit the pollen in the cell, but go again after more honey. But, why gather the pollen at all?

THE QUEEN THAT WON'T LAY WITH A NEW SWARM.

I had a nice swarm of Italians come off on the 4th. I hived them all right in a nice new stand, with starters and one frame of partly sealed and partly unsealed brood. In two days they again swarmed; and on looking in the hive I found queen-cells started on this frame of brood, and nothing done to the starters. I removed all queen-cells and returned them; to-day I looked again, and found queen-cells again, but the starters were run nearly down to the bottom, and no eggs in the hive at all. The queen I know to be prolific and young. This is her second year. The combs are full of honey as far as built out. I shall go this afternoon and add another story, raising half the frames, inserting empty ones in their stead. Would that be your advice? Do you think the bees filled the cells as fast as built, thus giving the queen no room to deposit eggs, or what was the matter? Bees are swarming throughout the country a good deal. DR. A. B. COX.

Ladonia, Tex., May 12, 1884.

When bees are greatly disturbed they will go into the hive and come out without unloading their pollen. Sometimes during the excitement of swarming they will do this, too, or when they go in and find their queen gone; but I never before heard of their getting so excited about the honey-yield as to forget to kick off the pollen-balls.—I have seen queens refuse to lay when the swarm was thinking of decamping, and I have also known an old fertile queen to wait two or three days after the swarm was hived on full combs, before she laid an egg. When she got down to business, however, she soon made up for lost time apparently. The bees were reluctant to commence on the starters, I think, because they had decided to go off.

EARLY SWARMING IN PENNSYLVANIA AND OHIO.

My first swarm issued May 17th. If there are any of our friends in my locality who can beat that for early swarming, let them come forward, or I will claim to be in the front. The weather was cold and wet all through fruit-blossoms; so cold that the bees could fly only a few hours each day; but they kept the brood-chamber booming with young bees.

WM. F. GEIGER.

Beatty, Westmoreland Co., Pa., May 19, 1884.

Friend G., we had a nice large swarm on the 17th, and a neighbor of ours hived a swarm, as near as I can remember, all of a week before ours. Since we have begun to talk about it, I should not be surprised to hear there are many throughout both of our States perhaps considerably earlier than those just mentioned. Apple-bloom was with us about two weeks later than usual; but I think bees never gathered more honey from it during my experience.

THE BOSS BEE-FEEDER.

Friend Ed Bailey, of Rodgers, Texas, an A B C beeman, has taught me, a veteran, how to feed bees. Just take an empty comb, and fill it with syrup, and hang it in the hive. But to *fill* it, that's the question, and it is where the discovery comes in. Insert a quill, or other tube, in a vessel, and allow the syrup to spout through it into the cells. It fills them effectually on both sides by inverting the comb. Have a vessel underneath to catch the waste syrup. Now, why is this not the best and cheapest bee-feeder in existence, where one has the combs?

GOING TO FLORIDA.

I am selling out and going to Florida. I spent the winter there; like the climate; but it is not half such a country for bees as Texas, and there they have no land, grass, or live stock like ours in Texas; but, the climate is worth a thousand dollars an acre, and the country is on a boom. I have sold most of my bees in Simplicity hives, good fix, for $8.00 a colony. I met friend Ashmead at Jacksonville, Fla. He had just got there with his bees from New York in good fix. I also met a German bee-friend at Titusville, but forget his name. He was also raising oranges. His palmetto honey I thought was about equal to our horsemint honey—no better. I was told that the mangrove honey was of superior quality; but, alas! the mangroves and mosquitoes grow together—on the coast. J. L. CALDWELL.

Mart, Texas, May 8, 1884.

Friend C., your plan of feeding is not entirely new, but it is a good thing to have the idea emphasized occasionally. The objection to this plan of feeding is, that it requires opening the hive and removing combs; and when robbing is bad, it is generally a troublesome process. Instead of preparing a can with the quill, as you mention, just take a common oil-can and fill it with syrup. It is a fact, that a short tube sends the syrup to the bottom of the cells more effectively than pouring the syrup into a basin having a perforated bottom, as is often done.—Thanks for your report from Florida, friend C.; but I believe there are quite a number who have gone there and got back again who do not feel quite as enthusiastic as you do.

KEEP AN EYE ON YOUR EMPTY UNUSED COMBS.

We have 300 frames full of foundation, packed in honey-house. Tell us in next GLEANINGS, *without fail*, if there is any danger of moth injuring them.

Galena, Ill., April 5, 1884. HALLETT & SON.

There is a great deal of danger, friend H., as soon as the weather is warm enough for the moth to get around, and for her eggs to hatch. However, if the combs are spread so as to be two inches apart, they are pretty safe, even if exposed in an open shed. Where two combs touch each other, or are pressed up together, there will be danger, unless they are shut up in a tight box or very close room. See our different text-books in regard to the matter.

REPORTS ENCOURAGING.

CAN WOMEN KEEP BEES?

I TOLD you last spring of our son's death, and that Miss Alice, his sister, 18, would make our hives and take care of our bees. We bought hives in the flat, and Alice made 30 last spring, and the same number this spring. She has half of the increase and half of the honey sold. We had 16 stands of bees in the spring of 1883; increased to 36; lost two in fall by robbing, caused by taking the sections off the day after that early frost; lost three from dysentery last winter; have six more that are not worth counting; gave 24 stands as the number to the assessor; he put them in at three dollars a swarm. We work mostly for comb honey; it sells better here than extracted. We sold all at our small town, two miles distant. We received 13 cts. per lb. at four places in town, each taking 25 lbs. at one time, and paying cash down. They sell at 15 cts. per lb. We tell them to return all that will not sell. We have never had any returned. Our honey came to $145. You may wish to know if Alice likes to take care of bees. No, she says she does it for the money.

SETTING HIVES ONLY SIX INCHES APART.

Our hives stand six inches apart, 16 facing south, a railing front, on which we place boards, the other end resting on the hive; this shades the entrance. The other hives face east, and get too hot on the back. When would be the best time to move them to face the south? Do you think our hives too near —only six inches apart? I have seen bees start and crawl, half a swarm, from one hive to another, and no fighting. Last summer we hived our small late swarms with any that happened to be weak, and no trouble. I think they were glad to receive them. The other day we saw a ball of bees in the hive; on smoking we saw a nice queen. We cut off the heads of some of their drone brood, and gave them some of last fall's uncapped sections, I hope they had something to do, better than balling a queen.

MRS. VALENTINE ZELLER.

Pioneer, Wms. Co., Ohio, May 19, 1884.

Well, I think that is pretty good, especially for one who didn't like bees, but kept them only for the money.—To be sure, six inches is too close, and no wonder you found the queen balled, if you had bees crawling from one hive to another. In our apiary we have them seven *feet* apart; and if I were going to change either way it would be to put them away further still.

FROM 5 TO 11, AND 300 POUNDS OF HONEY.

My report for 1883: I commenced in the spring with 5 swarms; increased to 11, and took 280 pounds box honey, and 20 pounds extracted.

GEO. L. FERRIS.

Five Corners, Cay. Co., N. Y., April 7, 1884.

A GOOD REPORT FROM BLACK BEES.

I commenced with one swarm of black bees, and I got two swarms from them and 62½ lbs. of nice white honey. The first swarm gave me 40 lbs. of good white honey and a swarm of bees. I got 20 cts. per lb. for my honey. I winter on summer stands. I brought them all through in good condition. I have "knocked the socks off" the Italian bee in this section.

CHR. TEMPLE.

Riggsville, Cheboygan Co., Mich., May, 1884.

FROM 1 TO 5, AND NO LOSS IN WINTERING.

I will give you a little of my good fortune in bee-keeping. I bought a swarm of bees last spring, and in the fall I had six swarms from the one. Don't you think that is doing well? I wintered five which came out in good condition, and now I will send and get me a smoker and veil.

WM. WOOD.

Leroy, Mich., April 1, 1884.

FROM 16 TO 34, AND 750 LBS. OF HONEY.

I started one year ago with 16 hives of bees—four in old box hives, which I transferred from. I got 750 lbs. from them, about 300 lbs. comb honey, and I increased them to 34 good colonies, and they have wintered all right. I think I shall have swarms in a few days. My imported queen I got from you is doing finely. Her bees are very beautiful.

Richburg, S. C., April 1, 1884. H. L. SIMPSON.

ENCOURAGING FROM FLORIDA.

I received the two nice queens two weeks ago all O. K. Many thanks. The saw-palmetto honey-run is in full blast now, and there is a prospect of a large yield this spring. Last year I extracted, by the first of June, over 1200 lbs. of No. 1 honey (equal to the white-clover honey) from 4-story hives, 10 frames each, and two 1-story hives, 5 frames each. I wish I could send you some of the honey that is coming in now; it is very clear and thick, and most elegantly flavored.

F. B. SACKETT.

Titusville, Fla., May 9, 1884.

FROM 5 TO 16, AND 900 POUNDS OF HONEY.

I assure you I value GLEANINGS very highly, and would on no account do without it. Mainly through its instructions I have had very good success so far in bee-keeping. Last spring I started with 5 hives, two being transferred from box into Jones hives. I increased to 16, and took 900 lbs. extracted honey, mostly clover and basswood. I fed sugar syrup for winter stores, and so far are wintering well in chaff clamp.

ARTHUR LAUGHLEN.

Toronto, Ontario, Canada, March 20, 1884.

FROM 2 TO 7, AND 100 LBS. OF HONEY.

I commenced in the spring of 1882, with two colonies in box hives; transferred the weak one to a movable-frame hive; increased to 7; obtained 100 lbs. of honey from the transferred hive; none from the box; kept in cellar; lost 3 during winter through mismanagement. I purchased 3 weak colonies in spring in box hives; transferred all to movable frames, making 7 colonies to start with in 1883. Increased to 26 by natural swarming; one absconded. I made 600 lbs. surplus honey; doubled to 24; average weight of hives put in cellar Nov. 15, 63½ lbs. Total cost of bees, hives, supplies, feed, etc., not including my time, $100. The few bee-keepers we have in this vicinity call the past a very poor season for honey.

REPORT ON PERFORATED ZINC.

As I have heard so many pros and cons on the zinc honey-board, I will give you my experience. I used it on nearly all my hives. I use a sort of Simplicity hive, 13½ inches wide, inside measure. To economize, I put in strips 8 inches wide; used a strip of tin on the other side; in 3 hives I found brood in upper story, but in no case did I find comb built either between the frames and zinc or tin. The space between my upper and lower frames is one-half inch. My bees are all native black bees, which may account for my experience being so different from others.

E. E. BABCOCK.

Glendale, Monroe Co., Wis., March 2, 1884.

REPORTS DISCOURAGING.

I THINK I may safely make my spring report now. I went into winter quarters with 6 colonies of bees, 4 strong and 2 weak. I have 6 colonies now—3 strong and 3 weak ones. One of my weak ones I should certainly have lost had I not changed places with one of the strong ones, thereby strengthening the weak ones. It has been a hard winter for bees in this neighborhood. I will try to give you something of an idea of the loss, so far as I know. I will give you the losses as I have heard them, though perhaps there has been some loss since I have heard from the parties:

Mr. Sprinkle, of Denmark, 97 last fall, none now.
" " " " a brother, 16 last fall, none now.
" H. W. Cleveland, of Denmark, 36 " " 20 now.
" Charles Lyon, of Sheffield, 5 last fall, none now.
" O. " " " 3 " " " "
" O. Gillett " " 12 " " " "
" L. D. Ormsby, " Pierpont, 80 last fall, 30 "
" Thos. Young, " Kingsville, 16 " " 10 "
" Lyman Luce, " " 6 " " 3 "
" C. A. " " " 4 " " 2 "
" A. Wilkerson, " " 4 " " 2 "
" G. Bachelor, " " 2 " " none now.

E. S. Snow, of Ashtabula, lost 20; I do not know how many he had last fall; also Mr. Hart lost one; Mr. Smith, of Monroe, 20; Mr. Share, all but one. I presume there are some others I have forgotten; but you can see by the above that it has been a bad winter for bee-keepers in this section.

Kingsville, O., May 20, 1884. H. H. PEASE.

Friend P., it seems to me from the above report that the mortality among bees seems to cover certain localities. From 97 to 0 is certainly a fearful loss. Bees have wintered so well in Medina County the past winter that almost everybody is wanting to sell bees at this date.

I have lost nearly all my bees by starvation. I was spending the winter in Kansas City, and left my bees alone all winter outdoors; and out of 60 swarms I found 6 alive on my return home, and a yard full of empty bee-hives and comb, and yet I am not discouraged, seeing dead bees by the bushel, and no sale for them. So will you, for my benefit, tell me how to build up again? What can I feed them so they will breed fast and replenish? Last year I fed nearly three sacks of granulated-sugar syrup to the 60 colonies—all lost. But, how to build is now my question. MRS. L. C. DONNELLY.

Valmont, Col., May 2, 1884.

If you have fed all that granulated-sugar syrup, my friend, you have learned the business of building up almost as well as I could tell it. I am astonished that your bees should die after having been prepared for winter in that way. Mrs. Axtell's first experience was in feeding sugar syrup until everybody thought she was crazy on bees. She wrote me to know my opinion about it, and I told her she was doing just right. And so you let your bees *starve*, *after* feeding them all that sugar?

Luck! luck! bad luck! I wrote to you some time last fall, telling you I had only four colonies to feed out of 150. Our apiary has been reduced to *three* since November. First, a man went along the public road with a large drove of cattle. They broke through the wire fence, and, knocking the hives over, and the upper stories coming off, let in the cold, and froze the bees, queen and all. Before the man could get the cattle out, a large part of them were stung so badly about the head that they died. The drover was stung so much he had to leave his cattle to "hold their own." I lost 86 of my best colonies, and gained nothing from the owner of the cattle. After uniting down to 58, a "cold snap" came; and before it let up it had frozen 18. This was done before New Year's.

January brought a warm spell of 9 days, in which the bees began to rear brood; and when it became cold again it found them without stores, thus reducing to 16 colonies, and those *very* weak, 13 of which have died from some unknown cause. I will never spend $300 on bees again without better experience. I should like to know if bees dislike the smell of pine lumber, as I can get it 75 cents cheaper per hundred. I have lost so much that I will have to keep on the cheap side for a while. It is true, you would think I would have enough old hives to do me for a while, but I was forced to sell them to pay my lawyer. Confound the lawyers, any way! A. H. PERING, JR.

Clear Creek, Ind., April 12, 1884.

Friend P., it seems to me your report is not a very big one, to discourage the friends from going into bee culture after all, for most of us would expect you to have a good fence and keep the cattle out. Your concluding remark seems to reflect rather more on the law business than on bee-keeping. Suppose you substitute "careless people" in place of lawyers in that wind-up of yours; that is, if you will excuse the liberty I take. —I never heard that bees disliked the smell of pine lumber, but we generally think it the best lumber that can be got.

IS HONEY FROM HEART'S-EASE UNFIT FOR WINTERING?

I find, in reading GLEANINGS and other journals, that "bees are doing well," "bees booming," and but very few discouraging reports, while I am making bee-keeping a failure this spring; and I ask myself the question, "Why is it?" There are several theories that come up; it may be this, that, or the other; but it is a genuine spring dwindle. I should like to have it solved, to avoid a repetition in the future. Some one in the *A. B. J.* states that heart's-ease honey is unfit to winter on; if that is a fact, it will give some clew to the trouble, as the great part of their stores was from that weed.

MOLLIE O. LARGE.

Millersville, Christian Co., Ill., May 16, 1884.

I do not believe that it is the heart's-ease honey, my friend; but perhaps others can tell us more about it.

I will send you a few lines for Blasted Hopes: I commenced the season of 1883 with one stand of hybrids; increased to 3 by natural swarming, but did not get one pound of honey. They would stand outside of the hive on their heads, and buzz all day, or all summer. About January 10 one stand died; the other two are in good condition now, and gathering honey and pollen. WM. O. MEWLY.

Raymore, Mo., April 2, 1884.

A BROTHER IN TROUBLE.

Please tell my bee-keeping friends through GLEANINGS, that warm weather has come again, the flowers are in bloom, the birds sing merrily, and this time their songs fail to cheer me, for I am oh so sad! because last fall I had 37 good swarms of bees, and I built up such good hopes for this summer, and now they are all blasted.

I thought last fall that I would make sure of some of my bees, so I packed 11 swarms on their summer stands in 6 inches of good fine oat chaff, leaving the entrance so they could fly out and in when they pleased; then on the 19th of Dec., 1883, I buried 5 swarms in sandy soil in a trench 3 feet deep, 2 inches of chaff in the bottom, and hives raised from bottom board a little; covered the trench with boards; put a 6-inch pipe in center for ventilation, and piled all the dirt on the boards that I dug out of the trench; then I put 21 swarms in my cellar, which is dry, and in sandy soil, and under my house. I had the cellar as dark as could be, and ventilated so that, when the mercury stood at 22° below zero outdoors, it was just 4 below freezing in the cellar—a difference of 41°. I had those hives raised two inches from bottom-board, no upward ventilation, and in February I commenced giving them water by filling pieces of empty comb and putting them under the hives, and raising them up against the frames; but the bees seemed restless, and would come out and crawl about until they were chilled. I swept them up and measured them at different times, and found that I had two bushels of dead bees from 21 hives.

April 1st, the bees on their summer stands were all dead. I dug the five swarms out of the trench; they were damp and moldy, and all dead except one swarm, which dwindled out in a few days. I took 16 live swarms out of the cellar; let them have a good fly, then put them back, as the nights were frosty. I repeated this several times, until I thought it was warm enough so they would prosper outdoors, and now I have only five hives containing live bees. Each of those hives has a good queen; they are showing their good will by laying three and four eggs in a cell; but all the bees put together, I am sure, would not make a pint.

What shall I do? what do I want? what will become of me as a bee-keeper? Why did the bees come out so in the cellar? They all had plenty of honey, and their combs were not moldy.

L. W. ITZENHOUSER.

Coral, Montcalm Co., Mich., May 13, 1884.

Friend I., I confess that I do not quite see why your bees should all die, unless it was that they had gathered stores from something that was unwholesome for wintering. The temperature of your cellar was too cold, as you will see by Doolittle's article in this number, and I fear you did not have fresh air enough in the cellar, and with those that were buried; in fact, I am inclined to think it was the trouble all around. It may be you killed your bees by fixing them up too carefully. Since we have practiced wintering with the entrance open wide full length, and coarse burlap over the frames, with loose chaff on top of it, we have had very much better success. You know our reports have shown that bees winter a great many times where a current of air passes right through the hive all winter, when the rest of the colonies in good tight hives all die. What shall you do? Why, build up again, of course, and in a year or two you will get the harg of wintering your colonies so you will winter every time without any loss, just as your old friend Novice does—or, at least, has for *one* winter, any way.

NOTES AND QUERIES.

WE set out our bees yesterday, and have been thinking of speaking for a small corner of the "Laughery," as it makes me feel like smiling "out loud" to see 100 swarms of Italians just as bright and nice as a new cent, every one of the 100 too.

D. E. L'HOMMEDIEU.

Colo, Iowa, March 27, 1884.

I have come to look upon bees with some interest and satisfaction. He who is never idle is always happy. W. L. SHARKEY.

Omega, Madison Parish, La., May 11, 1884.

I commenced the last season with 16 colonies; increased to 45, and took about 600 lbs. of honey, mostly extracted. I have at present 35 good colonies and 4 weak ones. S. H. EBY.

North Robinson, O., May 20, 1884.

MRS. COTTON'S CONTROLLABLE HIVE.

I indorse every word you say in April GLEANINGS in regard to the Cotton drawings and hive. I bought them. It would cost about $8.00 per hive to make them. E. H. FOX.

Danville, Ky., May 12, 1884.

DEVELOPING THE HONEY MARKET.

Two years ago I had hard work to sell a small crop of honey, and now I can not supply the demand of my neighbors. They bring cans and buckets, and often take from 100 to 200 lbs. at 12½ cts. Give your customers good honey, and they will buy again. ALEXANDER FLOYD.

Guilford, Mo., March 19, 1884.

BASSWOOD AND LINDEN, OR LINN.

To settle a dispute, please tell me, is basswood not commonly called linn? If not, what kind of a tree is basswood? C. M.

Catlin, Ind., May 5, 1884.

[They are all three only different names for the same thing, friend M.]

A NEW USE FOR DRONE-GUARDS.

Please send me one comb-brush to brush bees from comb, and the rest of inclosed dollar in guards for Simplicity hives, to keep drones out. They are eating up all of my honey, and swarming every day. I had one hive that swarmed three times in four days. W. N. PARISH.

Little Rock, Ark., May 14, 1884.

AN IMPROVEMENT SUGGESTED FOR FASTENING FOUNDATION TO FRAMES.

I find that a piece of rubber tubing stretched on over the wooden rollers you sell for fastening foundation to the frames is a great improvement. I sold a swarm last spring that threw off 4 large swarms, and all wintered nicely. CHAS. H. KOHLRAUSCH.

North Billerica, Mass., March 26, 1884.

REPORT FROM THE GRAY STARTER-MACHINE.

The new machine for putting in section starters is the boss. I made one but it required one whole day by your description, but I have one perfect. It has to be worked quickly to do the work properly. No man can afford to build one at the figures you give, 75 cts., but the freight is so much I thought I would try my hand at it. Bees wintered well; strong this spring. GEO. A. MATHEWS.

Katonah, N. Y., May 20, 1884.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, JUNE 1, 1884.

Wherefore thou art no more a servant, but a son; and if a son, then an heir of God through Christ.—GAL. 4: 7.

CAUTION.

IF locust and clover are not out yet, be sure that your bees are fed a little until the yield opens.

FRIEND FOSTER, of Mt. Vernon, Iowa, writes, after his advertisemt on page 362 was printed, desiring us to change the price of two-pound colonies with tested queen from $4.75 to $3.50.

HONEY FROM THE ENGLISH HAWTHORN.

THIS comes in blossom just as apple-bloom is gone; and from the number of bees we have seen working on it, I should infer that the hedge-hawthorn plants might do considerable toward filling the interim.

HONEY FROM APPLE-BLOOM.

THE yield this year has been much greater than usual, and so many colonies sent out swarms that a great many of the friends got excited and hurried on their section boxes, supposing that the honey-yield was upon us.

THE BOOM FOR SUPPLIES.

WE are now running our factory day and night; and although each 24 hours turns out from 40,000 to 50,000 sections, still they are grasped and whirled on to the train about as fast as they are packed up, and yet the call is for more and more.

UNTESTED QUEENS.

UNTESTED queens are now worth, at retail, $1.25, postage paid. We pay for them at wholesale, $75.00 per hundred. During the past month the demand has been so far beyond the supply that some of the friends began to scold a little; but, luckily for us, by the time their complaints reached us all orders were filled, and we are now prepared to send any kind of a queen by return mail.

ORDERS FOR ODD-SIZED SECTIONS.

I AM sorry to say it, but I fear the friends who order these will have to wait until orders for regular sizes are filled. If they can not wait, say so, and the money will go back instantly. Odd-sized frames are not nearly so difficult, for we have machinery all ready arranged for making them on short notice. We might be prepared in the same way on sections, but it would take still another factory; and, dear friends, another factory is now under consideration.

A SUGGESTION TO THOSE ORDERING LETTER-HEADS.

As it is desirable to have your business card on the first page of your letter only, we would recommend to those who order printed letter-heads, that they have no more than one-third with the heading on. The printed matter takes up about one-fourth of a sheet, and on a dozen sheets the waste of paper would be very considerable. It is all the same to us, however, for it takes no longer to print reading-matter than it does ruled lines. We have the sheets already ruled, put up in packages of 1000 sheets each, at 75 cts. per 1000.

THE OTHER (?) SIDE OF BEE CULTURE.

A FEW weeks ago, in reply to friend Hutchinson, I said I did not know of many successful bee-keepers in Medina County or vicinity. It is because I was not sufficiently well posted so as to know what is going on. At the present writing, the number of friends who come every pleasant day for Simplicity hives and one-pound sections indicates quite a different story; and when they take dinner with me, and tell over how they have been prospered by following the teachings of the A B C book, I feel as though I really did them a wrong. Although we have about 130 hands as busy as bees, there has been quite a little complaint that they could not get orders off because these friends who come in with teams (and often with their wives and families) carry off every thing as fast as they can make it and pack it up. I do not know how it is with you, friends; but the bee business is certainly not a failure in our vicinity. This locality has been growing steadily year after year, until now these visits to our factory for loads of goods seem to be a sort of yearly pilgrimage.

"NOTHING NEW UNDER THE SUN;" THE GOOD CANDY.

I HAVE once or twice before called attention to the fact, that after a lot of us were getting enthusiastic over a new discovery, somebody would say, "Why, the whole thing is given (or suggested) in Langstroth on the Honey-Bee." And so it has happened over and over again. Well, you know how pleased we have all been about friend Good's discovery of the candy that is now used for all our queen-cages. After experimenting with it for several months, I made the wonderful discovery (!) that powdered sugar, such as is used by confectioners, was away ahead of granulated sugar, and now here comes friend Phin in his new book, "Dictionary of Practical Apiculture," calling it the Good candy, or the Scholtz candy, and says the recipe for preparing it is in Langstroth's book. Did you ever! On turning to page 274 of the book that has been lying on our tables for almost twenty years, we find:

> "Rev. M. Scholtz, of Lower Silesia (Europe), recommends the following mixture for feeding bees: Take one pint of honey and four pounds of powdered lump sugar; heat the honey, without adding water, and mix it with the sugar, working them together to a stiff doughy mass. When thus thoroughly incorporated, cut it into slices, or form it into cakes or lumps, and wrap them in a piece of coarse linen and place them in the frames. Thin slices, inclosed in linen, may be pushed down between the combs. The plasticity of the mass enables the apiarist to apply the food in any manner he may desire."

It is true, our good old friend Langstroth did not say it was the best thing in the world to put in cages for mailing queens, for the very good reason that nobody knew any thing about mailing queens when he wrote it. Now, then, shall we call it by the name of the "Scholtz candy," or "Good candy," or simply the "sugar-and-honey candy"? Speaking of friend Langstroth reminds me that I have just received to-day from him a postal with the following as concluding words:

> I am still suffering much from severe head trouble.
> Oxford, O., May 21, 1884. L. L. LANGSTROTH.

JUST 90 more subscribers, and we shall be up to 7000, for the first time in the life of GLEANINGS.

THE PURPLE BASKET.

I TELL you, friends, this little device has done excellent service during these busy days. Several times within a week our mails have brought over 300 letters a day, besides a great number of postal cards. Now, if there is any thing you are very desirous indeed to have answered by the first mail leaving, mark it "Purple Basket" at the top of the letter, and I can almost always get some kind of an answer back to you.

HONEY FROM THE FOLIAGE OF THE SUGAR-MAPLE.

ON the morning of the 25th of May the bees were roaring through the foliage of the maple-tree tops, almost as thickly as they had been but a few days before on the apple-bloom. The leaves had shiny spots on them, made by a sticky liquid. A neighbor of ours said that his bees were working strong, and storing white honey in section boxes, which he supposed came from this source. I presume the honey-dew was owing to the presence of the aphides.

40 HOURS WITHOUT SLEEP.

IF any of our friends think we are not working hard to keep up with orders, let me tell you that one of our boys worked forty hours in succession, taking time only for his meals. It was our friend Jacob, of whom I have told you. When I found it out I gave him a good scolding, and made him go to bed. He has to mind when I tell him, even if he is getting to be larger and stouter than I am. Sometimes he obeys reluctantly, but he always does it good-naturedly, for he knows I am anxious for his best welfare.

SENDING GOODS BACK.

WITH the great roar of business, it is nothing strange if we send you a wrong thing once in a while; but please don't, dear friends, add to our already heavy load of cares and expense by being in haste to hustle goods back, even if they do not seem to be what you have ordered. Sometimes a neighbor has asked to have them included in your goods, and we have neglected to explain. Notify us promptly, of course, and then hold them until further orders; for we can often save a heavy shipping-bill by sending the article to some one near you who *does* want it.

LAZY PEOPLE.

THE clerk who opens the letters informs me that she has five envelopes containing postal money-orders—probably to pay accounts; but the friends who sent them were too lazy to even scrawl their names on the outside of the envelope, and the postmaster who sold the notes says he can not tell who it was that sent them. Of course, we can do no better than to let them lie, and very likely the ones who sent them will get a smart dun from the bookkeepers, and then declare they sent the money long ago. Would you really suppose we have so many people who are too lazy to write their names when they are sending money?

A PRESENT FOR YOUR WIFE.

WE are just in receipt of a new book from the O. Judd Company, published during this year, 1884, entitled "Household Conveniences." The book is full of excellent hints and ideas, as well as being full of pictures. It seems to me, that on first running over the leaves my eye caught on at least a dozen things, each one of which will, in a little time, save the price of the book. I earnestly commend it to all our readers. As a present for a housewife, I do not know what can be prettier. The paper is fine and strong, the printing beautiful and clear, and the engravings superb; and on the front cover is a medley of carpet-sweeper, tub, wash-bench, bucket, and other things suggested by the contents. Price, by mail, $1.50; If ordered by freight or express, with other goods, $1.40.

IMPORTANCE OF STANDARD GOODS IN PLACE OF ALL SORTS AND ALL SIZES.

DURING this present awful rush for section boxes, one of the packers remarked, that while our saw-room could turn out from 20,000 to 30,000 Simplicity sections in a day, yet if each thousand were to be made of an odd size, about 10,000 would be the best we could do. Still worse, it is impossible to pick out lumber so as to make exactly the quantity of odd-sized goods needed; therefore we have to make a surplus every time, which is worth only so much kindling-wood, unless our customer will be kind enough to take the surplus; whereas on regular standard goods, what is left over one of man's order is exactly right for the next, and so on. Losses, delays, and troubles without end, are the result of going on your own hook, and having your bee-hives and frames different from what anybody else has.

COOK'S MANUAL.

WHILE I write, the boys have just finished unpacking and storing away in the vault, 250 new Manuals, ready for delivery. The present edition differs from the previous one, only in a little change in some of the engravings. The fact that the book is the work of Professor Cook should be enough to make it find favor with every bee-keeper; for who has not at one time or another *felt* like saying out loud, if he didn't say it, "Thank God that we have such a man in our land as Prof. Cook"? When friend Jones was here with us he said he regarded Cook's Manual as the best book on bees in the world. Now, friend Jones knows all about the A B C book, for we had just been discussing it; but for all that, I rejoiced to hear him speak as he did, for it showed that he had sufficient confidence in me to know that I would not feel hurt at what he said. May be he added some sort of qualification; but if he did, I can not remember it now. The book is a good nice large one, full of pictures of every thing about bees, and full of friend Cook's hearty good nature. If you want to see how prompt we are in sending goods by mail, just send us $1.25 for the Manual. After you have bought one, and can get orders for them of your neighbors, we will allow you 25 cts. for doing the business, and will mail them to you or your neighbor, as you choose. The A B C book will be sent on the same terms.

CONVENTION NOTICES.

A SENSIBLE CONVENTION NOTICE.

The members and friends of the Northern Michigan Bee-Keepers' Society will hold a basket picnic at the apiary of Miss T. A. Bellamy, one mile west of Ionia, on the 19th of June. Teams will be in waiting to convey all who wish to attend, from the morning trains, free, to the apiary. Purchase your tickets to Ionia, but leave the cars opposite the prison-grounds. Miss B. requests that you bring your wife or husband, as the case may be, and also that you send her a postal, notifying her of your intention to be present, in order that ample provision may be made to convey all from the trains.

S. J. YOUNGMAN, *Pres.* F. A. PALMER, *Sec.*

The next meeting of the Bee-keepers' Association of Central Illinois, will be held in Bloomington, on the 2d Wednesday in July. W. B. LAWRENCE, Sec.

The next meeting of the N. W. O. B.-K. association will be held at Ottawa, Putnam Co., O., on July 25, 1884. At the last meeting, held in Hancock Co., May 9, the following resolution was adopted:

Resolved, That any man or woman may become a member of this association by furnishing the secretary with the name and postoffice address, and paying 25 cents. F. M. BLACKMAN, Sec.

BEE-HIVES, SECTIONS, AND APIARIAN SUPPLIES.

Our Telescope Hive is a double-wall hive, and is as light and as easily handled as any single-wall hive. It has two section-cases; each case contains 32 section boxes with separators. We make the one-piece, or mitered section box, any size from 3½x4¼ up to 6 inches square. 4¼x4¼x1½, $4.25 per 1000. Send for circular.

W. B. STONE & CO.,
NORTH LANSING, : : MICHIGAN.
11-14d.

PURE ITALIAN QUEENS.

Bred in "Sweet City" Apiary. Bees by the pound, and nuclei of any size. Write for circular.
7-13d G. W. DEMAREE, Christiansburg, Ky.

NUCLEUS COLONY with Italian queen after July 4th, with 3 L. frames, $3.00; or 2 L. frames, $2.50. Italian queens, $1.00.
11-13tfd J. L. HYDE, Pomfret Landing, Conn.

TESTED QUEENS, $2.00. Untested, $1.00. 4-frame nuclei, $3.50 and $4.50. Mississippi wax-extractor, $3.00. OSCAR F. BLEDSOE, Grenada, Miss. 3tfd

ALL DOVETAILED SECTIONS!

Langstroth and chaff hives, brood and wide frames, tiering-up cases, shipping-crates, honey-extractors, paper boxes for 1-lb. sections, wire nails, queens, and nuclei. Write for circular. **WHEELER & ISBELL,**
11d Norwich, Chenango Co., N. Y.

EARLY AND GOOD!

TESTED AND UNTESTED QUEENS, raised from the best and purest stock. Price list on application. Send orders at once to

W. J. ELLISON,
6-7-9-11d **Stateburg, Sumter Co., S. C.**

SOMETHING NEW!

) SEND TO (

E. B. WEED, No. 95 West 2nd St.,

CINCINNATI, O.,

For a sample of ***Foundation*** that can not sag or break down, with side walls of Pure Wax, from 1-16 to 1-4 of an inch high. Cheaper than any other make. 10-tfdb.

Excelsior Poultry Yards

WEST MONTEREY, CLARION CO., PA.

Illustrated Circular of Fine Thoroughbred Poultry, Bees, etc., sent free. Eggs, $1.50 per 13; $2.50 per 26.
9-13d J. T. FLETCHER.

ITALIAN BEES by the pound, 75c; 10 per cent discount for over 20 lbs. Full colonies on 9 frames in single Simplicity, strong with bees and brood, and untested queen from pure mother, $5.00; 3-frame nuclei, S. frame, with queen, $2.50. G. W. GATES,
9-10d Bartlett, Shelby Co., Tenn.

LOOK HERE!

Queens and nuclei a specialty. For prices see advertisement in GLEANINGS of May 1st.

W. C. LESTER,
Washington Hollow, Dutchess Co., N. Y.

BEST FOUNDATION,

Made on Root (or Olm) mill, from choice wax, 45 cts. Extra light for sections, 55 cts. State size of frame, and order at once. Will also work wax for 12½ cts. per pound, or two-fifths of wax.

F. H. HUNT,
11-12d. **Center Point, Linn Co. Iowa.**

ITALIAN QUEENS, 60 CTS. EACH.

Italian queen, raised from imported or pure American stock, at owner's risk, with 25 days privilege to fill orders, $3.00 per half doz., $6.00 per doz., the year round. $5.00 and over, at my expense for registered letter, or postoffice money order. Address

DR. JOHN M. PRICE,
11-tfdb. **Tampa, Hillsboro Co., Florida.**

RECENT ADDITIONS TO THE COUNTER STORE.

THREE-CENT COUNTER.

Postage.]		[Pr. of 10.	of 100
4	**HINGES**, narrow, per pair	25	2 00

About the size needed for a cupboard door.

FIVE - CENT COUNTER.

10	**HINGES**, 3½ inches, per pair	45	4 25
5	**SOAP**	48	4 50

Three beautiful little cakes in a fancy pasteboard box. Just the thing the little girls need to go with the 5-cent wash-basin.

5	**STRAP HINGES**, 3¼ inches long	45	4 25
2	**GIMLETS** to fit in a brace	45	4 00

TEN - CENT COUNTER.

16	**STRAP HINGES**, 7 inches long	85	7 50
2	**PINS**	65	6 00

All ready stuck in a pyramidal cushion. Each cushion contains about 300. One dozen of these cushions, all packed in a fancy colored pasteboard box, and the price of the whole dozen, box and all, is 75 cents.

FIFTEEN - CENT COUNTER.

4	**PAPER-CUTTER**, ivory, a beautiful and useful little implement	1 35	13 00

TWENTY-FIVE CENT COUNTER.

	EGG-DISH	2 00	18 00

This is a beautiful new design in glassware. The glass is etched so as to give it a white, frosty, or silvery appearance. The design is a nice old biddy sitting on her nest. Take her by the neck and lift her up, and there are the boiled eggs, steaming hot, and ready for dinner.

A. I. ROOT, Medina, Ohio.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I will have 12 black queens to remove on June 15th. Will sell them for 25c each, safe arrival guaranteed.
HERBERT LANGDON,
East Constable, Franklin Co., New York.

I can furnish 6 hybrid queens, tested, at 50 c each; also 8 black queens at 40 cts. each.
J. ARTHUR STAGG, St. Paul, Decatur Co., Ind.

We have about 12 black queens that we will sell for 30c each. All good, safe arrival guaranteed, ready now. HOWE & SON, Council Bluffs, Iowa.

25 very fine hybrid queens for sale. I will take 50 cts. for them. LOUIS WERNER,
Edwardsville, Madison Co., Ill.

25 or 30 hybrid queens for sale any time after June first, price 40c each. J. A. BUCKLEW,
Clarke, Coshocton Co., Ohio.

WANTED.

A carload of 2⅛-inch Basswood Plank; prefer dry, or partially dry. Address

J. B. M'CORMICK,
11-d. *Fredericksburg, Wayne Co., O.*

THE GOSPEL EXPOSITOR

(Weekly, $1.25; on trial 3 mos., 25 cts. Samples free.) Devoted to the Exposition of the Gospel Truth, suited to all classes of readers, with clear, interesting, and pointed articles. Highly Recommended.

Rev. D. Clark, Ed.; Rev. A. H. Hussey, Pub.
COLUMBUS, - - - OHIO.

SAFE INTRODUCTION GUARANTEED

Of all Queens purchased of me, by use of my *Safe Introduction Cage*. Or I will send one Queen to new customers in June, for $1.15; after June, for 90c., shipped in the safe cage, with full directions for safe introduction, but without guarantee of same. Price of queen-cages *reduced*. For new prices and terms of safe introduction, send for my circular without delay. Safe arrivals always guaranteed.

S. A. DYKE,
11-tfd. *Box 473. Pomeroy, Meigs Co., Ohio.*

Given Comb Foundation a Specialty.

Also Apiarian Supplies. Circulars, and samples free.
9-11d G. H. KNICKERBOCKER, Pine Plains, N. Y.

CHAFF HIVES CHEAP

I manufacture my hives (Root pattern) from first common lumber, in a finished and workmanlike manner. Send $2.50 for sample hive with frames. They are neatly painted and lettered. Satisfaction guaranteed. Send for price list of Comb Foundation and Apiarian Supplies.

EZRA BAER,
9-11d STERLING, WHITESIDE CO., ILLINOIS.

UNPARALLELED OFFER. Warranted Italian queens only $1.00. Address S. F. REED,
7-13d North Dorchester, N. H.

ITALIAN BEES. Full colonies with *imported* or home-bred queens, nuclei, or by the pound, *cheap*. Also 200 wide frames with tin separators. Hives, Smokers, Crates, etc. E. A. GASTMAN, Decatur, Macon Co., Ill. 9d

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BEES **100 COLONIES. also IMPORTED TESTED AND DOLLAR QUEENS,** Bees by the pound, etc., for sale. Write for prices. **F. L. WRIGHT,** Plainfield, Mich. 11d

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1884. 1884.

ITALIAN QUEENS.

Untested Queens a Specialty!

We will have plenty of untested queens by the 10th, so they will go by return mail. No more nucleus colonies for sale. Send for circular. Every queen that we have heard from (with one exception this season) arrived in the best of order.

T. S. HALL,
11-12d **Kirby's Creek, Jackson Co., Ala.**

A Full Line of Apiary Supplies.

Headquarters for the West. Send for Price List. Cash paid for beeswax. HOWE & SON,
1-11d No. 303 Broadway, Council Bluffs, Iowa.

ONE-PIECE SECTIONS A SPECIALTY!

Sample lots of 100 sections, 50 cents. See adv. in GLEANINGS of Feb. 15. B. WALKER & CO.,
7-15d Capac, Mich.

SEND

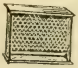
For Our Fine Descriptive Price List of

CHAFF & SIMPLICITY BEE-HIVES,
—AND—
Apiarian Supplies in General.

Good work, good material, low prices, and *satisfied customers*. Try us.

S. C. & J. P. WATTS,
9tfd **Murray, Clearfield Co., Pa.**

FLAT-BOTTOM COMB FOUNDATION.



High side-walls, 4 to 14 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS.
4tfd *Sole Manufacturers,*
SPROUT BROOK, MONT. CO., N. Y.

SEND FOR OUR CIRCULAR!

We keep in stock a full line of bee-keepers' supplies, Simplicity and Chaff Hives, one-piece Sections, Crates and Cases, Extractors, Smokers, Given Foundation, and BEES AND QUEENS. Circular free.
7-12db REYNOLDS BROS., WILLIAMSBURG, IND.

1884. FOURTEENTH YEAR. 1884.

Queens ---Italians & Syrians.

Single tested queen of either variety, - -	$2 50
Single untested queen, " " - - -	1 25

For extra choice selected queen, 50 cents additional. After June 1st, tested queens, $2.00, and untested (laying queens) $1.00. Sent by mail, and safe arrival guaranteed. W. P. HENDERSON,
7-17d Murfreesboro, Tennessee.

SPECIMEN BOOK FREE.

GEO. M. GRAY & CO.

LABELS

HONEY

FIRST CLASS ALL PRINTING

JOB PRINTING Of all Kinds.

MEDINA,
MEDINA CO., OHIO.

The Bee-Keepers' Guide;

Or, MANUAL OF THE APIARY.

11,000 SOLD SINCE 1876.

12TH THOUSAND JUST OUT!

10TH THOUSAND SOLD IN JUST FOUR MONTHS!

2000 SOLD THE PAST YEAR.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
State Agricultural College, Lansing, Mich.

ONE-PIECE SECTIONS,

—ALL READY TO SHIP,—

$5.00 PER 1000!

We make a shipping-case that suits the bee-keepers. Send for price list.

J. H. WOODWORTH & CO.,

West Williamsfield, Ashtabula County, Ohio.
11-d.

NOW READY TO GIVE AWAY!

3000 New Price Lists of Italian Bees and Queens. Send for One.

W. S. CAUTHEN, PLEASANT HILL, LANCASTER CO., S. C.
8-10-12d

I WANT TO SELL.

Being unable to keep, for want of room, my accumulation of Simplicity Hives, Frames, Sections, Chaff hives, and all Apiarian Supplies. Price list free.

C. P. BISH,
11-15d. **PETROLIA, BUTLER CO., PA.**

I HAVE BOUGHT

Of T. S. Hall a stock of *Pure Italian Bees*, and can furnish, during June and July, a few Untested Queens. Safe arrival guaranteed, at 90 cts. each.

ED. B. LEWIS,
11-d. **Kirby's Creek, Jackson Co., Ala.**

At Kansas City, Mo.,

I Raise Pure Italian Bees For Sale.

Dollar queens in May,	$1.50
" " " June,	1.25
" " after June,	1.00

Tested queens, double the above prices.

Bees per one-half pound, same prices as dollar queens. For discounts on large orders, see my circular. *I warrant my dollar queens to be purely mated.* I do not know that I have any dissatisfied customers; but if there are any such, and they will write me in regard to the matter, I will do the best that I can to render satisfaction.

5tfd **E. M. HAYHURST, P. O. Box 1131.**

DUNHAM COMB FOUNDATION.

We have bought a large stock of choice yellow beeswax, and can furnish Dunham Comb Foundation for brood comb, cut to any size, for 48c per lb. Extra thin and bright yellow foundation for sections, at 55c per lb. We will guarantee our foundation to be made of pure beeswax, and not to sag. Will pay 30c per lb. for yellow wax, or will work it up for 10c per lb. To induce our customers to order foundation early in season, we will allow 8 per cent discount on all orders received before the first of March. Address all orders at once to

F. W. HOLMES,
1-11d Coopersville, Ottawa Co., Mich.

Oldest Bee Paper in America—Established in 1861.

AMERICAN BEE JOURNAL,

WEEKLY, at **$2.00** a year.

MONTHLY EDITION, 32 pages, $1.00 a year.

925 West Madison Street, **Chicago, Ill.**

HEADQUARTERS FOR

Early Italian & Cyprian Queens.

Imported and home-bred; nuclei and full colonies. For quality and purity, my stock of bees can not be excelled in the United States. I make a specialty of manufacturing the Dunham foundation. Try it. If you wish to purchase Bees or Supplies, send for my new Circular containing directions for introducing queens, remarks on the new races of Bees, etc. Address

1tfd **Dr. J. P. H. BROWN, Augusta, Ga.**

Italian Bees.

100 colonies, on Langstroth Frames, delivered at my yard, one mile from depot, in lots of 20 or more at $5.00 per colony.

J. B. MITCHELL,
HAWKINSVILLE, - - GEORGIA.
10-11d.

FDN. MILLS. 10 INCH $15.00
W. C. PELHAM
MAYSVILLE, KY.

BEES TO SELL.

40 full swarms left yet at $4.00 each; put up in light shipping-boxes, with comb of brood and honey.

M. W. HARRINGTON,
HOMESTEAD, IOWA CO., - - IOWA.

PEA-VINE CLOVER SEED.

We have on hand, ready for immediate shipment, about 20 bushels of pea-vine clover seed. Price $8.00 per bushel; $4.50 per one-half bushel; $2.50 per peck, or 20c per lb.; 18c per lb. additional, by mail.

A. I. ROOT, Medina, Ohio.

1884. **6 Warranted Queens for $5.00.** Write for circular. **1884.**
1fd. J. T. WILSON, - MORTONSVILLE, KY.

GEO. W. BAKER,

LEWISVILLE, IND.,

IS STILL BREEDING

ITALIAN BEES & QUEENS.

Also dealer in Extractors, Smokers, Honey-knives, etc. Also breeder of 13 different varieties of land and water fowls. Eggs, $1.50 per sitting. Send stamp for Catalogue. 10-tfdb.

CHEAP! - CHEAP!

FULL COLONIES, NUCLEI, and QUEENS.

SEND FOR PRICE LIST TO

DAN WHITE, NEW LONDON, HURON CO., O.
7tfdb

J. W. ECKMAN,

RICHMOND, FORT BEND CO., TEXAS,

DEALER IN

PURE ITALIAN BEES AND QUEENS.

7tfdb *SEND FOR CIRCULAR.*

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

BEST SUPPLIES FOR 1884.

Watch free to everybody who will send me an order for ½ dozen tested, or 1 dozen untested queens. The world-renowned Waterbury watch, and one queen, only $4.00. Watch alone, $3.50 by mail. I think I now have the very best strain of bees that have ever been offered at so low a price. It is just the bee that attracts everybody's eyes; viz., for beauty, pleasure in working, and large yields of honey. Everybody wants them. Italian tested queen, in April, $4 to $6; May, $3 to $4; June, $2.50 to $3.50; July and after, $2 to $3. Untested, in April, $2; May, $1.50; June, $1.25; July and after, $1. Albinos and Holy-Land queens, my favorites, one-fourth more than Italians.

Dealer in scales, comb foundation, Simpson honey-plant seeds, or roots; 70-cent smokers, canary birds, brown Leghorn eggs, $1 per 13, and U. S. honey-extractors. Wax wanted. Send for circular.

4-8-11d. D. E. BEST, Best's, Lehigh Co., Pa.

ONE-PIECE SECTIONS.

One-Piece Sections per 1000, $5.00. As we have a fine stock of sections ready to ship, we can fill orders by first freight. Can have your choice, V-groove or Simplicity.

SMITH & SMITH,
KENTON, - HARDIN CO., - OHIO.
11-12-d.

PURE ITALIAN QUEENS!

From an **Extra Selected Imported** mother. Tested queens, $2.00; untested, $1.00. Large orders filled at special rates. Circulars on application.

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DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

Advance in Foundation!

Owing to the scarcity of beeswax, the price of foundation will be advanced 2 cents above the price quoted in our March circular, wholesale or retail. Dealers will please take note.

CHAS. DADANT & SON, Hamilton, Ill.

FARM FOR SALE.

232 acres 1½ miles south of Paoli, Orange Co., Ind., all under fence; 80 acres in cultivation; 30 in timber; remainder in grass; 100 apple-trees; good dwelling, all necessary out-buildings; No. 1 milk-house, 3 living springs of good water. School ¼ mile; Friends' church; house within 150 yards of dwelling; Sabbath-school every Sabbath; good situation for an apiary. Basswood, poplar, and white clover plentiful. Price $4000. For further particulars, address N. M. FARLOW,
Paoli, Orange Co., Ind.

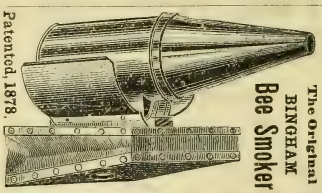
SECTIONS! SECTIONS!

Orders all filled, and 40,000 Simplicity sections on hand, boxed ready to ship at Root's prices.

C. A. GRAVES, Birmingham, Erie Co., O.

CHOICE ITALIAN QUEENS, NUCLEI, AND BEES BY THE POUND.

Tested Queens in June, $2.50; after June, $2.00. Warranted queens in June, $1.10; after June, $1.00; discount on large orders. Be sure to send for circular giving price of bees. Safe arrival and satisfaction guaranteed. CHAS. D. DUVALL,
11-tfd. Spencerville, Mont. Co., Md.



Borodino, N. Y., Aug. 15, 1882.

CYPRIANS CONQUERED.—All summer long it has been "which and t'other" with me and the Cyprian colony of bees I have — but at last I am "boss." Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. Respectfully,

G. M. DOOLITTLE.

Mess. Bingham & Hetherington:—

DEAR SIRS,—I received those Smokers in good order, and am much pleased with them, and the improvements, over the old ones. They can not fail to please your customers. Thanks for promptness.

Yours truly,— J. M. HIBBARD.
Athens, Ohio, April 21, 1884.

PRICES:

By mail, postpaid.

Doctor Smoker (wide shield)	3½	inch,	$2 00
Conqueror Smoker (wide shield)	3	"	1 75
Large Smoker (wide shield)	2½	"	1 50
Extra Smoker (wide shield)	2	"	1 25
Plain Smoker	2	"	1 00
Little Wonder Smoker	1¾	"	65
Bingham & Hethering'n Honey-Knife	2	"	1 15

To sell again, apply for dozen or half-dozen rates.

Address T. F. BINGHAM, P. M., or
BINGHAM & HETHERINGTON,
9tfdb **ABRONIA, MICH.**

ALBINO AND ITALIAN QUEENS, BEES AND SUPPLIES FOR 1884

HEADQUARTERS FOR THE ALBINO.

For beauty, for kindness, and for large yields of honey, the Albino bee is ahead. Last season we increased one colony to 6, from which we took 500 lbs. of comb honey, and all had abundant stores for wintering. We have a heavier stock of bees than ever before, and shall be able to furnish queens in large numbers. We have also added to our buildings, and increased our facilities for Hives, Comb Foundation, and Apiarian Supplies generally. Send for Price List. Please write your address plainly.

We have traded for some hybrid and black bees, which have fine queens, which we will sell, hybrids at $1.00, blacks 50 cents. Address

9-11d **S. VALENTINE & SON, Hagerstown, Washington Co., Md.**

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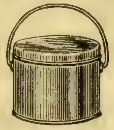
BEE-HIVES,

CHEAP! CHEAP!

Simplicity and Heddon hives and cases. The last named, a *specialty*. One-piece sections, foundation, smokers, etc. Send for price list.

J. J. HURLBERT,
3-5-7-9-11-13d **Lyndon, Whiteside Co., Ills.**

PACKAGES FOR EXTRACTED HONEY!



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WM. ✢ WEEKS,

ALBANY STEAM TIN-WORKS,

NO. 2 DIVISION ST., ALBANY, N. Y.

Pails that are very desirable to housekeepers after they are emptied, and in great demand by the honey trade.

1	Pound Honey-Pails	
1½	" " "	1 Pt.
3	" " "	1 Qt.
6	" " "	½ Gal.
12	" " "	1 Gal.
25	" " "	2½ Gal.

ANY OTHER SIZES MADE TO ORDER.
12-tfdb.

BEES ✢ TO ✢ SELL

At $3.50 each for full swarms, put up in light shipping-boxes, with comb of brood and honey.

M. W. Harrington, Homestead, Iowa Co., Ia.
12-13d.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have 5 black queens at 30 cts. each; 2 or more hybrids, 40 cts. each. Safe arrival guaranteed.
D. E. JACOBS, Longley, Wood Co., Ohio.

I have about 10 black queens and 12 hybrids that I would sell, and guarantee safe arrival by mail. Blacks, 30c each; hybrids, 50c each.
JOHN R. CROOKS, Keiths, Noble Co., Ohio.

I will have about a dozen black queens for sale by the 15th of July, will take 25 cts. each for them.
E. W. STAYTON, Martin, Weakley Co., Tenn.

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Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

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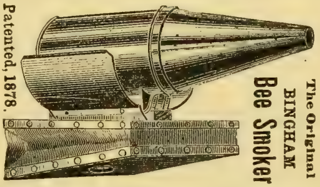

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9tfdb **ABRONIA, MICH.**

J. W. ECKMAN,
RICHMOND, FORT BEND CO., TEXAS,
DEALER IN
PURE ITALIAN BEES AND QUEENS,
7tfdb *SEND FOR CIRCULAR.*

HONEY COLUMN.

CITY MARKETS.

BOSTON.—*Honey.*—The sale of honey is almost over, and we are obliged to sell 2-lb. comb for 15c.; and 2¼ and 2½ lb. comb from 10 to 12c. No 1-lb. in market. *Extracted*, 8@10c. BLAKE & RIPLEY,
June 14, 1884. 57 Chatham St., Boston.

CHICAGO.—*Honey.*—The supply of comb honey is very light, and there does not appear to be any choice comb to come forward. Choice white comb in 1-lb. sections brings 18c. Anything short of choice is worth 12@15c. *Extracted Honey.*—There is quite a large amount here, and demand is very light. Purchasers refuse to pay over 7 cts. for manufacturing purposes. Sugar is used instead of honey at present prices, a good article of cane sugar being purchasable at 6 cts. per lb.

Beeswax in demand at 37 cts. for prime yellow; 30@33 cts. for off color. etc. R. A. BURNETT,
June 14, 1884. No. 161 South Water St., Chicago.

CLEVELAND.—*Honey.*—The peculiarity of our market still manifests itself in the continued good demand of best 1-lb. sections at 18 cts. on arrival, while best white 2-lbs. stand still at 16. Second quality of all kinds is exceedingly dull at 12 to 13. Extracted not wanted in any shape. *Beeswax* in demand at 35. A. C. KENDEL,
June 11, 1884. 115 Ontario St., Cleveland, O.

KANSAS CITY.—*Honey.*—There is now a little slackening in the movement of honey, in anticipation of the new crop. Prices unchanged, 15 and 16 being the range for choice comb, and a few choice ½-lb. sections bringing 19c. I shall be glad to receive shipments of new honey as soon as practicable, after it has thoroughly ripened. Remember, the "early bird, etc." Extracted, nominal at 7@8½.

Beeswax, none in the market.
JEROME TWICHELL,
June 5, 1884. Honey Depot 514 Walnut St., K. C.

I shall be pleased to send a copy of "Suggestions on Packing and Shipping Honey," free, to any one on application.

ST. LOUIS.—*Honey.*—The demand for extracted honey has fallen off. Nominal in barrels at 7c., and 8@9c. in cans at retail. No demand for comb honey. Quote from 14 to 16 cts. for nice packages in good order at retail.

Beeswax in good demand, and sells readily on arrival at 34@35½c. W. T. ANDERSON & CO.,
June 12, 1884. No. 104 N. Third St., St Louis, Mo.

The Bee-Keepers' Guide;
Or, MANUAL OF THE APIARY.
11,000 SOLD SINCE 1876.
12TH THOUSAND JUST OUT!
10TH THOUSAND SOLD IN JUST FOUR MONTHS!
2000 SOLD THE PAST YEAR.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs.

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C. A. GRAVES, Birmingham, Erie Co., O.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

SOMETHING NEW!
—) SEND TO (—
E. B. WEED, No. 95 West 2nd St.,
CINCINNATI, O.,
For a sample of *Foundation* that can not sag or break down, with side walls of Pure Wax, from 1-16 to 1-4 of an inch high. Cheaper than any other make. 10-tfdb.

CHEAP! - CHEAP!
FULL COLONIES,
NUCLEI, and QUEENS.
SEND FOR PRICE LIST TO
DAN WHITE, NEW LONDON, HURON CO., O.
7tfdb

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

ONE-PIECE SECTIONS.
One-Piece Sections per 1000, $5.00. As we have a fine stock of sections ready to ship, we can fill orders by first freight. Can have your choice, V-groove or Simplicity.
SMITH & SMITH,
KENTON, - HARDIN CO., - OHIO.
11-12-d.

PURE ITALIAN QUEENS!
From an **Extra Selected Imported** mother. Tested queens, $2.00; untested, $1.00. Large orders filled at special rates. Circulars on application.
11-12d **D. G. EDMISTON, Adrian, Mich.**

SEND FOR OUR CIRCULAR!
We keep in stock a full line of bee-keepers' supplies, Simplicity and Chaff Hives, one-piece Sections, Crates and Cases, Extractors, Smokers, Given Foundation, and BEES AND QUEENS. Circular free.
7-12db REYNOLDS BROS., WILLIAMSBURG, IND.

1884. 1884.
ITALIAN QUEENS.
Untested Queens a Specialty!
We will have plenty of untested queens by the 10th, so they will go by return mail. No more nucleus colonies for sale. Send for circular. Every queen that we have heard from (with one exception this season) arrived in the best of order.
T. S. HALL,
11-12d **Kirby's Creek, Jackson Co., Ala.**

LOOK HERE!
Queens and nuclei a specialty. For prices see advertisement in GLEANINGS of May 1st.
W. C. LESTER,
11-12d Washington Hollow, Dutchess Co., N. Y.

ITALIAN AND HOLY-LAND QUEENS.
Fine Queens a specialty, bred from imported and selected stock. Bees by pound; nuclei or full colonies. Send for circular to
W. B. COGGESHALL, SUPT.,
HILL SIDE APIARY,
Summit, - Union Co., - New Jersey.
11-12-d.

NUCLEUS COLONY with Italian queen after July 4th, with 3 L. frames, $3.00; or 2 L. frames, $2.50. Italian queens, $1.00.
11-12-13tfd J. L. HYDE, Pomfret Landing, Conn.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.
F.A. Whiting

Vol. XII. JUNE 15, 1884. No. 12.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
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Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

THE DANGER OF HASTY CONCLUSIONS.

PROF. COOK TALKS TO US ABOUT BURYING BEES, AND SOME OTHER THINGS.

SOME years ago, Mr. Editor, I put two or three colonies of bees under ground for the winter, digging a hole in the sand, arranging for ventilation and drainage, and covering all with straw and earth. They came through so bright and fine that I could but say "eureka," especially as the winter was one of the disastrous ones. I said in my report, this seems to promise well; but it is yet too early to speak with emphasis. The next year, and still the next, gave the same result. Only one of these winters was mild, and few bees were lost anywhere. I still considered it an experiment, which, as the sequel shows, was wise. The next winter all these colonies died; the next winter two died. I then said, as I say now, burying is too uncertain—the bees are out of sight; and if any thing goes wrong, we shall know nothing of it, and, of course, can apply no remedy. A year since I said all this to W. Z. H., and said go slow, for you surely will get this burying enthusiasm nipped,—fortunately it is nipped in the bud,—and if you go slow your loss will not be serious. He gave a wise smile, and we now know the result.

Mr. Editor, Mr. H. ought to have buried a few—he thinks the large number caused the loss; but I buried only three—and you, Mr. Editor, ought not, in my judgment, to have published his seeming success and demonstration, nor he to have written it. Such reports are premature, and mislead, and do much damage. Mr. H. says two of his neighbors are his companions in suffering. I doubt not but there are scores, for Mr. H. is an extensive writer, and his words have weight. Had he said last fall, I shall try two or three colonies, he would have done little or no harm by his words.

It seems to me, that in our writings we can not be too careful in withholding conclusions till a generous number of examples make a real demonstration. Beecher is reported to have said, that his greatest fault is "slopping over"—a rude phrase, but it may well apply to some of us writers, especially us younger ones. A. J. COOK.

Lansing, Mich.

Thanks, friend Cook, for your wise admonition. I often publish these reports of successes, but a great many times I add a word of caution. Reports have their value, and I often like to get a lot of them side by side, and compare results. One reason why I put them in GLEANINGS as I do is, that our text-books nearly, if not quite all, give the summing-up, and also usually give these words of caution in regard to risking too much in any one venture. I hope we shall all learn to be very careful about writing any thing that may have even a tendency toward this fault of "slopping over."

Bee culture seems to be peculiarly unsettled in many of its particulars. For instance, in this matter of separators or no separators, friend Hutchinson declares it decided in favor of abandoning them; and yet, the orders for separators, and many of them from our old honey-producers too, have required tons and tons of tin, imported from the old country. In the matter of perforated zinc, there is such a difference of opinion, and a difference in practical experiments, that it seems to be a very hard matter indeed to decide upon the best size for the perforations. I really do not see any other way at present than to publish the conclusions that different ones arrive at, even though one man decides conclusively that "t'other man" has made a big blunder. Worse yet, some of the best of us frequently reverse decisions that we had supposed settled.

DO BEES EVER SWARM WITHOUT A QUEEN?

SOME PRETTY CONCLUSIVE EVIDENCE IN THE MATTER.

IN June Gleanings, page 376, in your comments at foot of page, you say, "At least some claim they do," which leaves one to think you seem to doubt the fact. Prior to last week, I would have said the same thing; but a few days ago I was sent for, to come home; the bees were swarming. On arriving I found two clusters under the grape-arbor. As the clusters were small, and not having hives to spare, I concluded to put both clusters in one hive, and take chances as to the results. I used a tin pan, took down one cluster, put them on a large paper in front of the hive, then took down the other cluster, and put them on top of those on the paper. The two together made quite a respectable colony. As they entered the hive I kept a good lookout to get the two queens, and give them the one I liked better; but, to my astonishment, I found none. They were hardly settled in the hive containing two frames of comb, before they commenced coming out. Expecting trouble, I took a frame of brood and honey out of another hive, and put in. As soon as I put a cover on, all bees immediately returned and entered the hive. I then put them on the stand near the others, not being satisfied about their having no queen. I closed the entrance to hive, so that but three bees could get in at a time; shook bees all off the frames on a paper; put frames back in hive, put on cover, opened entrance, and then watched them. As the entrance was small it took them some time to get back in the hive, giving good opportunity to find the queen, if any, but saw none. The next day I examined them again; found no queen, but cells started, which I destroyed; again, two days from that time, I destroyed cells started about 6 days from the time I hived them. I gave them an Italian queen. I introduced her by letting her run off my finger on the comb among the bees. As soon as they became aware of having a queen, they commenced singing that peculiar song expressing satisfaction, etc. So much for bees swarming without a queen. A. Lower.

Griffin, Ga., June 7, 1884.

Friend L., if I understand the matter these were some colonies that had got a sort of swarming mania; and although you do not say so, I should judge they had been going out and clustering in that eccentric sort of way, perhaps, before you saw them this time. I have seen a demoralized colony so that they would swarm almost every day, and would hang on separate bunches in several places for an hour or more. Sometimes where a queen is clipped, the bees will cluster and hang, perhaps for ten or fifteen minutes; but they usually return in less time than that, if no queen is in the cluster.

SOMETHING MORE ABOUT THE ZINC HONEY-BOARDS.

TELLING BY HER LOOKS WHICH HIVE A QUEEN BELONGS TO.

I NOTICE some of the bee-keepers, who have tried the perforated zinc honey-boards, write they don't like them; but with me they have been a perfect success. I bought ten last year from you, and found that they answered the purpose splendidly—not a single queen getting into the upper story. I left the boards on several hives during the winter, and this spring I found that *one* queen in the ten had deposited eggs in the upper story. I think she must have gone up before she began to lay freely, and while she was not heavy with eggs, as no more eggs have been found above since replacing her in lower story. It is a pleasure to extract from hives with these zinc boards.

From one of my best colonies I have extracted 135 lbs. of honey in about fifteen days, and they are ready to extract again; so the boards do not hinder the free passage of the workers.

I want to tell you how well my young relation, Milton Scott, who also keeps bees, knows his queens. He has twelve colonies, in Simplicity hives, with zinc-honey boards; all worked for extracted honey. As he has entire charge of his father's farm, of some 900 acres, he did not want to increase his colonies this year; and when they swarmed he would cut out queen-cells, extract the honey, and put them back. Well, he had done this a time or two, when, one day, four stands cast swarms at the same time, and all together, making a cluster about the size of a ten-gallon can. He shook them all on a sheet, found all four of the queens, returned them to their respective hives, and allowed the bees to return at will.

I think his acquaintance with his queens, in being able to return each to her own hive, entitles him to a front seat with our foremost apiarists. I will add, that from his twelve colonies he has extracted nearly 1000 lbs. of honey, from poplar-bloom. I think this will do pretty well for Georgia. Don't you? F. N. Wilder.

Forsyth, Ga., May 22, 1884.

The above was writen at my dictation by my little daughter, 12 years old; as you are always interested in children, I mention it. F. N. W.

Thank you, friend W., for your good report. In regard to telling what hive a queen belongs to by her looks, it would not be a very difficult matter, if they all had some distinctive mark or characteristic. The color and shape help us greatly to know them; but by a little careful observation, the manner in which they move, the way in which they carry their wings, a spot on their backs, etc., will enable us to distinguish them pretty surely.—I am glad of that concluding note, and I do not know but one reason why your letter was given a place in Gleanings just as soon as it came out of the mail was because it was so plainly and nicely written. We print it without changing a word, all of which are correctly spelled. I wish papas would take hold and set their twelve-year-old daughters at work. When crowded with business, it is to me one of the greatest luxuries to have somebody at hand to write a postal or a letter for me; and a nice little girl who has the faculty to "catch on" to whatever you tell her is one of God's best gifts.

THE UPS AND DOWNS OF TEN YEARS OF BEE-KEEPING.

FRIEND CONNELLY TELLS US SOME OF HIS EXPERIENCE.

I DON'T know whether you should put me in Blasted Hopes or not. Hopes are all right; it is the *bees* that are gone. I will start 10 years ago, and tell you my luck. In 1873 I started by having a new swarm in July. They were in a half of a salt-barrel, with something like a barn-door for bottom. They filled it full of comb, and so heavy with honey we concluded not to carry it into the cellar, so I made a box large enough to hold the half-barrel, and one foot higher. This space I filled with chaff, and they wintered all right. I made me 3 hives, or, rather, boxes, one foot square, to put my new swarms in; bored an inch hole in top of hive, and put one box on, intending to have the new swarm go in and fill it, which they did; but when I took it off one afternoon toward night they had all gone back to the old barrel. My wife said, "Let us have the honey to use," so we did. I think there was 50 lbs. They filled the three before fall, but no increase; filled two next year, and one Sunday afternoon in August my little boy came in and said the bees were hanging in one bunch on an apple-tree. These I got in the remaining box—the first swarm I ever saw.

In 1880 I had 53 to put in cellar. My surplus averaged 60 to 80 lbs. per colony, spring count, which was in boxes one foot square. We cut out comb and sold it in milk-pans at 15 to 20 cents per lb., never losing one colony in wintering till Dec. 24, 1880, when our house burned, and left me with the old barrel, which was the largest building left on the farm; loss, over $2000. Well, neighbors gave us free board till we got a house built, and in the spring I got the bees out of the old barrel into an L. hive; and by buying a few lbs. I had 60 last fall and 3000 lbs. honey, mostly in sections; and when J. Wiltse says he can't see any difference in the amount stored in 1 and 4 to 8 lb. boxes, it makes me laugh as much as it did to hear Doolittle say he sold honey at 6 cts. Straight extracted sold for 15 in our market; but some honey one of our merchants got from Chicago was not salable; he said they called it glucose honey, and traded it to me to feed a few swarms that were weak. If that was a sample of extracted honey, I don't wonder it sold low; but our bees make a different article. Well, some of them, late swarms, got short of stores, and I lost 600 lbs. The winter was to blame, as some had too much, and I was careless in not dividing, and as bad as the man who let the cattle get among his hives. Often, if we knew the cost, we would be more careful; but I bought a few and sold some till I had 60. I was wondering how I should get honey and avoid increase; but the 20th of May we had a wind storm about 40 feet wide. All my hives under two rows of apple-trees went to suck sap out of the roots; as the trees turned roots up, the hives went to smash. It then hailed half an inch, and the 12 hives that were left went to pick up the bits that were left, but not till the storm was over. Now I am down to 12 to start with, and a new bee-cellar that I built last fall will hold 50 hives. Now can I get it, and 3000 sections which I have, full? My chicken-yards, ten feet off, were not blown down. My wife says the Lord wants to keep me from getting stung; but as you are going to sell hats that will catch all the stings, there is no fear. I think I will risk them a while longer.

You see, I know how to winter. I think it was the gas from the oil-stove that killed Doolittle's bees, and not the heat. The temperature in my cellar was from 40° to 50°. Not over ten quarts of dead bees were on cellar floor. Bees should not be disturbed in winter. I think honey from heart's-ease as good as any. I have had late swarms that had nothing but buckwheat honey, and they wintered well; but I should expect, if I put them in a potato-pit, to find them dead. Two swarms in Simplicity hives, belonging to a neighbor, upper-story full of chaff, coffee-sack over frames, entrance open two inches, came out as bright as a dollar.

Ogden, Iowa, June 9, 1884. W. CONNELLY.

FOREST-LEAVES FOR WINTER PROTECTION.

A GOOD YIELD FROM APPLE-BLOOM.

I WINTERED my bees on their summer stands, some packed in chaff, and some with no protection, save a woolen mat on the frames, and the upper story filled with forest-leaves. All came through safely, and in good shape. One colony wintered in a common two-story Simplicity hive, having for its only protection the upper story filled with leaves. On the 24th day of May, inst., I gave this colony 10 L. frames in upper story, putting a zinc honey-board between the two sets of frames. This afternoon I extracted 72 lbs. of as nice, thoroughly evaporated honey as ever was seen, and on two days during the week it rained hard all day. The other colonies gave a fair yield for fruit-bloom; but this particular colony has given the best results I have ever known, for the season.

I have read the statement, that honey from fruit-bloom, apples, etc., was not palatable; but I never tasted honey of finer flavor than this I have mentioned. Had all my colonies been in as fine condition as this particular one, I should have had a perfect bonanza. My advice is, for every bee-keeper to take advantage of the yield of honey from fruit-bloom, and be sure to have every colony up to full strength, in order to start in well at the beginning of the season. The spring in this locality has been very cold; but by feeding I have kept brood-rearing going on, and my colonies are all ready now to take in a good crop from white clover as soon as it shows itself. Every thing now looks favorable for a good honey-season, and I trust we shall not be disappointed. I am prepared for a good yield, and also to take matters as they come, and that, too, uncomplainingly. J. E. POND, JR.

Foxboro, Mass., May, 1884.

I am glad to have another report showing that the honey from apple-trees is of nice quality, friend Pond; and I wish that we might do something that would enable us to take better care of the honey from this source.

RECENT DEVELOPMENTS,

And Suggestions and Queries Particularly Pertaining to the Season.

EARLY SWARMING IN THE NORTHERN STATES.

PLEASE inform Wm. F. Geiger, of Beatty, Westmoreland Co., Pa., that I shall have to take my place away above him for early swarms. I had a very large swarm April 30, and a second swarm from same hive, May 15; third from same hive, May 17, all of which are at this date (June 10) working in section boxes. I wintered 35 swarms in chaff hives on summer stands last winter, without any loss. I have had 25 new swarms to date. A. W. GILLIS.

Kinsman, Ohio, June 10, 1884.

COMB-BUILDING BETWEEN THE STORIES.

Will you please tell me the simplest and easiest way to keep the bees from joining the surplus frames in the chaff hives to the brood frames? Lots of white clover about here? PHILIP WEARE.

Yancey's Mills, Va., May 22, 1884.

Reduce the space to an exact quarter of an inch, friend W.; then if they make trouble, paint the tops and bottom bars to the frames. Perforated zinc honey-boards are largely used for the purpose; and while some think them admirable, others find a good deal of fault. It is an unsettled problem. If you get your frames on before your bees get fins of comb projected above the top-bars, they are not nearly so apt to build the frames together.

CHAFF HIVES.

Bees in this section have wintered unusually well—seldom hearing of any one losing any. I have 11 colonies in good condition—6 in chaff and 5 in Simplicity hives; have about come to the conclusion that the chaff hive, even if it is more expensive, is the cheaper in the end. The honey season is now upon us, and we are hoping for a good harvest; this, however, I will report in the future.

Arkdale, Wis., June 2, 1884. E. C. MORSE.

HOW TO HEAD OFF ANTS.

I wish to give to the readers of GLEANINGS my protection of bees and hives from ants. I first put 4 legs, or standards, under my hives, then get 4 tin cups, paint them outside and in, so they will not rust, then place strips of boards under the hives, set the cups on them, put one leg in each cup, fill with water, then you have the ants. S. D. BUELL.

Union City, Mich.

HONEY FROM THE LEAVES OF THE SUGAR-MAPLE.

On Sunday last, June 1, the sugar-maples were liberally sprinkled with honey-dew, both here and in Cleveland. The sidewalks were covered with the drops from the leaves. Bees worked furiously, but no aphis to be seen. J. SINGLETON.

Brooklyn, O., June 4, 1884.

These reports are almost daily now, friend S.; and coming just before the clover-bloom, is something unusual. It has been a wonderful help in brood-rearing, however. The color of the honey is about like dark maple molasses, and the flavor, I am sorry to say, is a good deal inferior; in some cases it is not fit to eat at all. Even to-day, June 13, our combs of white-clover honey are spotted up with this dark honey. It is going to make a heap of trouble, I fear, with honey in sections, as well as extracted honey. Several observers besides yourself, including among the number Ernest (who is getting to be quite an earnest scientist) declared there were no aphides about it, but that the substance is a saccharine exudation from the unusually luxuriant growing maple-leaves. One friend declares it falls from the sky, for it came down from the clouds and fell on his hand and he licked it off.

Since the above, I have the following from Ernest:

MORE ABOUT THE HONEY-DEW FROM THE MAPLES.

Dear Father:—Since leaving home I have been devoting my spare moments to the honey-dew question. I confess myself a good deal at sea yet, and further investigation shows that my first impressions were more visionary than real. As the result of a little work upon this matter, I present one or two facts which bring us a little nearer the truth, I think.

You will remember that I told you I found honey-dew only on the leaves of maples. Since then, however, a more prolonged and careful examination reveals innumerable drops of the sparkling dew, not only on the leaves, but also on the bark, in the grass, and on the sidewalks adjacent to the trees. This is not the ordinary dew, from the fact that the sidewalks are much stained, and give a sharp boundary line to the edges of the tree; also the dew which I examined on the leaves of a peony beneath the maple was sticky, and, to all appearances, identical with that on the tree. To satisfy my curiosity I climbed the tree, and was not surprised to find great drops of honey-dew just adhering to the tips of many leaves. This, then, would account for the stain on the sidewalks as well as the drops on plants beneath. Availing myself of the opportunity, I tasted of the leaves and the drops adhering. The flavor was unmistakably strong, bitter, and aromatic. While sitting perched in the tree, regaling myself in the sweets of nature, my attention was suddenly arrested by a cluster of little green worms on the under side of one of the leaves. Closer investigation revealed eggs—plenty of them, too. Looking about me I discovered webs and every other worm appliance. While this did not in the least serve to sharpen my desire for tasting of more leaves, it set my curiosity to whirling; for it rather upset my pet theory, that honey-dew is a secretion of maple-leaves, and not an exudation of insects. Another fact not in harmony with said theory: Friend Fowls this morning brought me several branches, on the leaves of which was honey-dew. Among them was a branch of white ash; on its leaves, as on the maples, was, to all appearances, the same honey-dew. Friend Fowls says he has also seen honey-dew on the leaves of basswood. In either case the same worm is present as on the maple. I think we may presume, if these things are true, that the worms, whatever they are, are probably the source of this honey-dew. I have several sprigs having the cocoons and web of these worms, and I will send them on to Prof. Cook. It is quite probable that he has the same thing in Michigan.

Friend Fowls says he has about two barrels of this honey-dew on hand, gathered by bees within the last ten days. At my request he brought me a jar of it. It is very thick, and has a splendid amber color; in appearance, it is not unlike a nice quality of basswood, However, on tasting it I found it to have a bitter, aromatic flavor, the same as on the leaves. It probably would not answer for any other purpose than feeding or strengthening weak colonies in early spring. I will bring the jar when I come home vacation, and you can express your opinion on it then. Your son,

ERNEST R. ROOT.

P. S.—I wish you would give the juveniles a word of exhortation on this subject, and get them to report. Who knows but they, with their disposition to ramble and climb, would recall, in their simple, condensed style, many facts hitherto undiscovered? This year, of all others, seems to be especially favorable. E. R. R.

TOO MANY DRONES.

In regard to so many drones in one of my hives, it looks to me that there are a fourth drones. That hive has swarmed twice. What shall I do with them? J. A. UHL.

Millersburg, Ohio.

Friend U., go right at it this minute, and cut out the comb that those drones were bred in, and supply its place with worker-comb; or, better still, after sifting out all the drones with the drone-trap, put the remaining bees on frames of worker-foundation. A bee-keeper should be ashamed of having a hive full of drones at this enlightened stage of apicultural lore.

COOK'S NEW MANUAL.

Our 12th thousand has been out just 3 weeks, and 600 are sold. Is not that worth an editorial note in GLEANINGS? All should rejoice as we do at your 6910 subscription list. A. J. COOK.

Lansing, Mich., May 31, 1884.

My report of winter results is as follows: Fall count, 115; dead, 6; sold, 17; alive at date, 92. Bees are in good and healthy condition, and strong in numbers. S. H. MOSS.

Colchester, McDonough Co., Ill.

HONEY-BOARDS MADE OF THE PERFORATED ZINC; SOME FURTHER FACTS IN REGARD TO THE SIZE OF PERFORATIONS.

I put on my honey-boards, made of your perforated zinc. It won't work at all; it is too close or small a space; have lost lots of bees since yesterday; left above, and could not get down or out. What shall I do with them? They won't do for outside drone-protectors, nor inside honey-board.

JNO. H. DANIEL.

Cumberland, Guernsey Co., O., June 8, 1884.

Friend D., it seems a little strange there should be so many different reports in this matter. Alley has decided in favor of the smaller perforations, and quite a number of others say it is all right, although yours is the first report we have had of it for honey-boards, if I am correct. It seems quite likely that what we want is something about half way between ours and the Jones style. We are now thinking about putting in the necessary machinery to perforate the metal ourselves, and then we can have it just where we want it. We have plenty of honey-boards in stock made of the Jones size, but no zinc of this size in any other shape. The small size we can furnish in sheets in any quantity, or made up, as desired. Who can give us further facts in the matter? If I am not mistaken, we are not sure just what we do want.

SOME QUERIES ABOUT BROOD-COMBS.

I am having some trouble in getting my foundation in between the diagonal and upright wires in my brood-frames. I can't do it without tearing or mutilating the fdn. Can you give me a little instruction?

Friend M., our girls warm the sheets of fdn. in the sun, or otherwise, until the wax is soft enough to be tough, then they push one end under the diagonal wire, fold the sheet partly, and slip in the other.

FRAMES THAT DON'T HANG TRUE.

Please tell me, also, what to do when the bottoms of the frames do not hang so as to correspond with the tops, some almost touching each other, and others too far apart. And how far should the outside frame hang from the side of the hive?

The metal corners ought to be made so that every frame hangs steady, and straight down; however, if they are not, it does not matter so very much, for the projections on any comb after it has been used a little while will keep it pretty near the proper distance from its neighbor. The outside of the frames should come within ⅜ inch of the inside of the hive, as a rule. If it comes within ¼ inch, however, it will do just as well; but if it should be as much as ½ inch, bits of comb would be built in during a heavy flow.

PUTTING THE SECTIONS OVER NEW SWARMS.

Would you advise putting the surplus honey-sections on young swarms as soon as they are hived?

I wouldn't put the sections over any swarm until they had got pretty well started on the brood-combs, and the queen had commenced laying eggs; otherwise the whole family might move up into the sections, and begin housekeeping.

HOW MANY COMBS TO GIVE A NEW SWARM.

Would you give a fair-sized young swarm a full supply (10) of brood-frames at first?

I would give every swarm as many combs or fdn. as they want to work on. Giving them more in hot weather would do no harm; but if you are short of combs, they are just as well off to have one more at a time as soon as they need it; that is, put in combs enough so that all the bees will have combs enough to cluster on, and so that they will not build combs in the empty space. Almost every trip through our apiaries I find one or more colonies building comb on the enameled sheets, because they have filled up faster than the boys thought they would; so, friends, keep a careful watch while clover honey is coming in as it is now. It was only yesterday that I made a queer discovery. I told the boys I could tell by the looks of the flying bees of every colony pretty nearly when they had got to building combs on the enameled sheets. I did it by their extra vigor and industry; and it transpired that every colony that had got started to building new natural combs showed an industry something like that of a new natural swarm. This would seem to indicate that bees, to do their best, must have combs to build; and, therefore, to get the best yield of honey, either comb or extracted, each colony should be employed in doing some comb-building. Now, if I am right in this, and I think I am, it is not best to fill any hive with old combs already built out. Whether building out frames of fdn. will give this same vigor as building natural combs, I am not yet quite determined; but I am inclined to think we should get a better working force where the starters in the sections do not completely fill them. Who will tell us more about this?

A BOOM ON THE HONEY.

I will extract some soon. We are in the midst of a wonderful honey season. Bees have filled up lower stories until queens have not room enough.

Francis Trueblood.

Archer, Florida, June 10, 1884.

NEW HONEY.

I took over 100 lbs. of comb honey from two colonies to-day, and have about a dozen more that have their supers (50 lbs.) about completed. This has all been gathered in about ten days, and principally from locust-bloom. I have never seen such a flow of honey; but the bees were ready for it, and they were just *common Italians too.* All of my bees are just booming. I think I have 80 colonies, but haven't taken time to count them.

Leroy Vankirk.

Washington, Pa., June 11, 1884.

THAT FROST.

It is the coldest here now I ever saw it at this time of year. It froze so hard last night and night before, that it has killed every thing that frost ever kills, even to clover that was knee high, and bees are very nearly out of honey. I am feeding some; have 135 stands, mostly in good order, except honey. Clover looked well before the frost, and raspberries never looked better.

C. J. Haight.

Rush, Sus. Co., Pa., May 30, 1884.

A STILL FURTHER IMPROVEMENT ON THE DRONE-TRAP.

I mail you a "drone and queen trap combined," to-day. You will find them an improvement on the other. While the others work well and catch all the drones, you will notice wherein the one sent today is much the best. I found, on watching the bees, that the trouble with the zinc was not the holes, but the smoothness of the metal. They could not stick their "toe-nails" in so as to force their bodies through. Now, you will see I have arranged the zinc so that they can force themselves through and use their whole strength to do so. I would suggest that the front side of the zinc be roughened by rubbing a piece of coarse sandpaper over it before it is used; that will tend to help the bees to catch on more firmly. You will notice that the bottom chamber is ½ inch lower than those used before, and that the tubes are set nearer the front, thus compelling the drones to pass up into the chamber alone more rapidly. I have also nailed a piece of the zinc over a hole in the end of the cage, and use a tin top. The tin top will keep out the water, and does not cost over one cent per cage, and works just as well as though the whole top were of zinc.

My bees have filled their hives with honey, and work just as well with the traps as without them.

Wenham, Mass., June 10, 1884. Henry Alley.

I will explain to our readers, that the above improvement consists in having the strip of zinc before the entrance on an incline instead of being on a perpendicular. It first rises about half an inch perpendicularly, and then is bent so that the remaining portion is at an angle of about 45 degrees. This will, without doubt, let the bees out faster, but it seems to me that, when they come to go back with loads, it would hinder more than the old style; but as friend Alley has tested the matter thoroughly, he is doubtless right about it. The above, of course, refers to the zinc with the small-sized perforations.

STILL LATER IN REGARD TO THE ZINC HONEY-BOARDS.

Yes; the perforated zinc of your own make will do. Send me 25 pieces, cut 13¼ by 13¾.

J. S. Hughes.

Mt. Zion, Macon Co., Ill., June 12, 1884.

Thank you, friend H. Your report comes just in the nick of time. Now has anybody else tried it, and is their verdict the same as the above?

DO ITALIAN BEES WORK ON RED CLOVER?

A REPORT THAT SEEMS TO INDICATE IT DEPENDS ON THE KIND OF ITALIANS.

I NOTICE in last number of Gleanings, on page 373, Mr. Thaddeus Smith thinks as I once did, that it was a humbug to talk about Italians working on red clover. A few years ago we sent to Illinois and procured a well-marked and beautiful light-colored Italian bee. I watched the red-clover fields all summer, and never saw a bee, except bumble-bees, on a bloom. I said it was a humbug to talk of their working on it, and that I would give $20.00 for a colony that would do so. Our bees all died that winter; next spring we sent to Illinois to another party for bees. About the 10th of June I noticed them working very busily, and all seemed to be going in one direction. I started out to see what they had struck. I did not go far until I treed them in a field of red clover. I could hardly believe it, even after seeing it with my own eyes, for I was so sure it was a humbug to believe they could do so. Last season they almost deserted the white clover after the red bloomed. They do not wait, as some suppose, for the second crop, but begin early on first crop, and work until frost; neither is this a small clover, but as large as we raise in this part of the country, our neighbors getting seed from different places, and perhaps different kinds, yet the bees tackle it all the same, ram their "snouts" down into it with a vim, and load up like as if they were working on linden. Some of those bees are nice Italians, rather of the darker shade; some hybrids. I do not see any difference on the bloom, as all seemed to work alike.

We lost over half of ours this winter, Some of our neighbors lost as many, while some did not lose many. It is a rainy, bad spring, and no swarms yet.

Fillmore, Ind., June 11, 1884. W. L. Job.

Thank you, friend J., for the above report. As our bees are raised from stock imported almost constantly from Italy, and we never take any pains to breed for light-colored bees, it may be that this fact accounts for the different results.

BEE-KEEPING IN A MOUNTAINOUS REGION.

BEE-NOTES FROM THE BLUE RIDGE.

MY last letter to GLEANINGS has brought so many inquiries about this country, that, with your permission, I will answer the gist of those queries through the great bee-keepers' medium. Many correspondents seem to have but a confused idea of a mountain country, and can not divest their minds of the landscape with which they are most familiar — broad, cleared fields where the plow and reaper can run with little hindrence, and farming operations can be pursued on an extensive scale, with all the advantages for bee-keeping peculiar to the mountains, thrown in. This is an erroneous impression. Farming in a mountainous country is necessarily confined to small areas of cultivable land at best, and the best location for keeping bees admits of but limited farming. From one to ten acres is about the extent of a mountain field. The land is diversified by rugged cliffs, lofty peaks, ridges, slopes, coves, or glens, and narrow bottoms along the largest streams. The bottom lands along the so-called rivers are generally taken up by old settlers, who farm in the primitive way. Higher up, the widest of the coves and valleys are also occupied by sparse settlements. The higher plateaus near, and on the crest of the Blue Ridge, are just beginning to attract settlers. In the latter region, three to four thousand feet above sea-level, is where the cool healthful air, the sweet, sparkling water, the cascades, and grand mountain scenery are found. All through this upper region is where the fine honey is produced. The whole country is good for bee-keeping; but choice selections can be made, which will always prove extra fine.

The southern slopes and coves, which are overhung and sheltered by the lofty mountains and thin flanging ridges, are particularly well adapted to bee culture. Such topographical formations are designated by the general name of "coves" in this country.

The atmosphere in this coves is several degrees warmer in summer than on the plateaus above, and the bee-pasture is very varied. They work in the low warm nooks early in spring. In one of these coves, two miles only from Highlands, bees were carrying in pollen from the alders on the 7th of last February, and swarmed in April; while at Highlands, swarming is a month later. The bees follow the bloom and forage over mountain and glen, wherever the flowers yield nectar. Abundance of poplar (tulip-trees), locust, black-gum, sourwood, huckleberry, buckberry, "kill-calf," maple, chestnut, and, in some localities, linden, or basswood, abound. In addition to the honey plants and trees named, there are scores of others; and where there are cultivated fields, white clover is abundant. These give a succession of bloom from early spring till August, and sometimes there is a good flow of fall flowers; but the fall crop of honey can not be counted on for much surplus. Buckwheat yields but little honey here. The asters and goldenrods invite the busy workers in swarms, and they spring up in abundance wherever the forest is destroyed. The mountain honey is very mild and of delicate flavor, never harsh and pungent.

This mountain region is not adapted to general farming purposes; but as a land for orchards, it will be difficult to find a region that will surpass it, especially for growing apples. For root crops and grass it is very superior; and when the superabundance of forest has been cleared away from the parts suitable for orchards and pasture lands, the dairy business, with fruit-growing, root culture, and bee-keeping, will move hand in hand, to make this south-western Blue Ridge country one of the favorite sections of the United States. The finest summer climate that has ever been discovered on the continent is here on the Blue Ridge of North Carolina. All admit this superior merit who have visited these mountains.

But the country is wild and unkempt at present. Those who come into it in pursuit of health, or to follow bee-keeping, must make up their minds to dispense with many of the conveniences and comforts of the old and thickly settled parts, where railroads are but a few minutes drive or walk from their doors. The native population, though hospitable, sociable, and in every respect agreeable, are very primitive, generally, in their habits and mode of life, and in their home appointments and farming operations. The log bee-gum, the hand-loom, spinning-wheel, and bull-tongue plow, predominate in all this region of country. But the click of the sewing-machine mingles with the buzz of the spinning-wheel, and the sonorous tones of the parlor organ swell with the evening hymn from the log cottagd (for those mountain folks are generally church-goers and church - members). The Yankee-inventions, and Yankees too, are coming, and they are coming to stay.

My bees are booming on this 31st day of May. Some of the colonies have their second story almost full of snowy combs, and in another week some will be ready to take off, and this is only a medium location for the business.
E. E. EWING.

Highlands, N. C.

A GENTLE PLEA FOR THE MEDICAL PROFESSION.

A REPLY TO THE ARTICLE ON PAGE 90, FEB. NO.

BRO. ROOT:— I do not like to see such medical literature in GLEANINGS, although I do not see how you could well pass it, considering the request of friend Hayhurst. I do not practice medicine now, being nearly 60 years old. I feel such cuts, however, given in Pringle's article, as wrong. The mind has more to do in recovery from disease than drugs; and any thing said or done to break confidence in medical men acts injuriously in the sick-room, in the same manner a lecture by Robert G. Ingersoll in your town would on your work in the church. At one time during the Crimean war I was the only physician on duty in a hospital of 1500 beds, all full. Of course, I could not go half way round. I tried to get over 600 beds per day. Here, then, were 900 sick, without a doctor, for 14 days! As I had the daily deaths *previous*, *during* as well as *after* the 14 days, you will readily admit that I had data from which to infer results. Now, the average deaths were greater among the 900 than among the 600. Among the 600 there was *hope*. Not so among the 900. "*By faith* ye are saved" was true of the 600, but not true of the 900. This leaves medication by drugs outside. But the very peg on which these 600 hung their hopes was wanting in the other wards. The great bane is, that unqualified men get into the medical profession in large numbers; but so they do in the other professions. We in the U. S. have about 80,000 physicians. **JESSE OREN.**

La Porte City, Ia., Feb. 4, 1884.

Thank you, friend O., for your kind reminder that we are in danger of uncharitable fault-finding. I confess, I had something of the feeling you have expressed, when I came to think over the general tendency of that article. It occurred to me, too, that the physicians of our land are, many of them, our near neighbors, perhaps near relatives; and to call them unscrupulous, or even ignorant, in their line of work, would be a very unkind thing at least. Some of the best friends I have are among the medical fraternity, and I am sure they are, as a class, in no sense behind the times, compared with men of other professions. I do know, too, that it is a very bad habit to get into, of criticising and finding fault with those belonging to other trades or professions than our own. I am satisfied, that, as a rule, it would be safer to trust a case entirely in the hands of our family physician, *where a physician is really needed*, than to attempt something out of our line, or, worse still, to trust the case in the hands of somebody we do not know. My little text, "We be brethren," it seems to me, applies here as well as in any other department of life. In regard to the harm such a man as Mr. Ingersoll might do during a revival time, I have had some experience in just that line, and I have also had some experience of the evils of criticising and fault-finding with a good honest physician who was doing the very best he knew how.

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HOW TO MAKE A REVERSIBLE FRAME.

SOME SUGGESTIONS FROM A LADY.

WITH your permission, I will tell beginners the kind of reversible frame *we* use, and how to make them. For Simplicity frame, cut heavy hoop iron (one inch wide) 5½ inches long; bend one end at right angles, ⅞ of an inch long for the projection; punch a hole for the screw, 4⅛ inches from this turn; saw the projection from a frame, make a small hole in the center of the end, and screw on the reversible attachment, and you have it.

HOW TO MAKE THEM.

All you need is a hammer, punch (an old file will do), monkey-wrench, a cold chisel or an old ax to cut the iron with. Close the wrench so it will just receive the end of the iron; lay it on a block, or something solid; insert one end of the iron, bend it over and strike it with the hammer, to make a square turn; then punch the hole for the screw.

I think this the most simple arrangement I have seen. It is cheap, and easily made, and can be adapted to any hanging frame. **ADDIE I. JOHNSTON.**

Brock, Nemaha Co., Neb., May 25, 1884.

I need hardly tell our friends, that the above device has been figured and described on our pages. A few days ago a man came to see me, but did not seem inclined to make his errand known till he could see me privately. After a little preface he said he had come quite a distance, and that he had quite an important invention to communicate. I could hardly persuade him that it was of no value, until I turned to the page in GLEANINGS where his invention was described. He then threw his models away, and concluded it would pay one who is making inventions, to have a bee-journal on file. In regard to reversible frames, I very much doubt whether the reversing device would be used, after we go to the expense of attaching them to our frames. Many thanks, my friend, however, for the very plain directions you give for a home-made reversible frame.

The reversible frame described above will be found illustrated on page 156, and also on page 320 of our advertising columns.

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WORKER-EGGS WITHOUT FERTILIZATION.

SOME FURTHER FACTS IN THE MATTER.

THE plan of artificial fertilization in GLEANINGS of May 1, as I understand it, has been tested on three cells, the following being the details: The cells, before being capped, were inoculated with fluid from drone-larvæ, two by actually introducing the larva into the queen-cell, the third by touching the queen-larva with the end of a match, previously wet with the drone-fluid. All three were capped, the two first never hatching, the third hatching on May 18th, and laying in just two weeks, having been fertilized, I believe, in the natural way. I shall experiment further, and report. **J. W. CRENSHAW.**

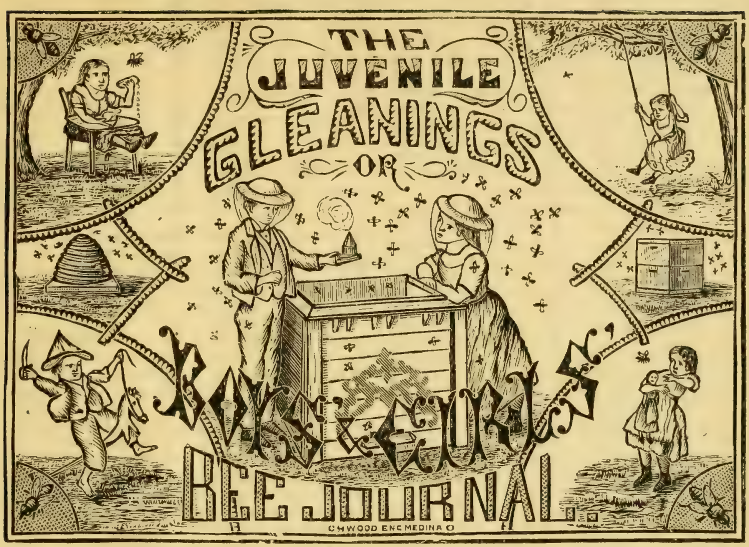
Versailles, Ky., June 1, 1884.

Friend C., I have been watching anxiously for reports. Now, has any one else tried it, and has any one succeeded any better in the matter?

We have a young queen with no wings that would be of any use to her to fly with, one of them being about one-third as long as a natural wing. The other is still shorter by one-half, and both raveled out at the ends, so they would play but a small part in bearing her weight in the air. She is a fine prolific queen, and her brood is worker-brood. Now, then, what are we going to do about it? Bees are still doing well; we are now well on the eighth month since we landed here, and only a few days' dearth of honey. **A. W. OSBURN.**

San Miguel de Jaruco, Cuba.

Friend O., we have on record several reports like yours; and so far as I know, we have no good explanation in the matter. Perhaps the queen managed to flutter enough with her stumpy wings to become fertilized in the usual way, but this is hardly probable, however. In tossing queens up in the air, that don't lay, I have several times found some that could fly tolerably well, say as high as a common apple-tree, but they would eventually come down and alight before going a great way. Now, these queens never became fertile, and therefore it would seem that yours must have been fertilized in the hive, or around the entrance, or else she was never fertilized at all. This latter idea has been several times suggested, but it lacks proof. We should be glad of more facts on the subject.



He that is faithful in that which is least, is faithful also in much.—LUKE 16: 10.

MYSELF AND MY NEIGHBORS.

In the way of righteousness is life; and in the pathway thereof there is no death.—PROV. 12: 28.

THERE is a great lot of them now, little friends—neighbors, I mean. The time-clerk told me a little while ago there were 165 working here, and two more are coming Monday. Never before did the "Home of the Honey-Bees" know such a boom. You see, when orders began to pile up away ahead of us until it seemed next to impossible that they could ever be filled, I went into that little room all alone by myself, after the hands were all gone, and prayed that the dear Savior might help us out of this *new* trouble, and to help us to wait on this great army of friends who are wanting so many things. I had before tried hiring new hands during such a rush, but it had made such "big troubles" I was almost afraid to try it again; but although I could not see how it was to be done, I remembered that in many things in these past years where I could not see any way out, God had finally helped me out of all. You see, I have been learning all these years, so that I can now pray in more faith than I used to do. Do you wish to know how the prayer was answered? Well, it was in this way:

Almost right away afterward, Mr. Gray came to me, saying we really must run day and night; then the next question that came up was, "How can we get hands that will sit up all night? I did not know how it was to be done; but I asked God to help, and, almost before we were done talking about it, a good stout young man wanted to know if I could give him any work. My reply was,—

"My friend, do you neither drink, swear, nor use tobacco?"

He colored some, hung his head a little, and then looked up in a manly sort of way and replied,—

"Mr. Root, I have been doing these things; but I want to break off, and I got an idea that this is a pretty good place for a boy to come who wants to reform."

In less than an hour another came, and he, too, was set to work, until by night we had enough, with a few of the older hands, to keep the section-machines going all night. Day after day they keep coming with something like this: "Mr. Root, if you will give me work I will stop using tobacco, and stop swearing, and I will work all night too, if you will just give me a chance."

With a "God bless and help you, my friend," I set them to work one after another until I almost began to feel frightened at the number in my employ; for to tell the truth, there is quite a few now whom I do not know by name; and the most wonderful part of all is, that night after night every thing has gone on pleasantly, nice work has been turned out, and one room after another has greeted me with the intelligence that they were catching up with the orders, even though they come thicker and faster than ever before. The women in the wax-room, with two or three men with them, have done their part nobly; and when I go to bed at night, tired out, I can, by swinging back the shutters, see the factory in plain sight, with lights blazing from many windows, and the roar of buzz-saws floating out on the still air at every hour of the night. At just 12 o'clock they shut down for lunch and to oil the machinery, and then they have a good square meal with coffee or lemonade, as they choose.

In about twenty minutes the roar commences again. Last night the clerks reported that smokers and metal corners were in danger of running short, so a part of the hands in the tin-shop worked all night, and this morning we have plenty of both.

A few days ago I overheard one of the girls in the folding-room say the A B C books were almost gone, and our new and enlarged edition could not be gotten out until some time in August, so our big press has started up to run day and night too; and last night, to keep it going, I worked with the A B C book, handling the types and pages until half-past eleven, and was up and at it again a little after four this morning. I told the boys that the "Home of the Honey-Bees" without any A B C books would be almost as bad as "a home without a mother." I felt really happy last night in getting the new shining types in my fingers once more; in fact, I felt a real love for the letters and commas and periods and semicolons; and when the printers came round, and I had a "form" all made up nearly ready for the press, I felt happy again, and I thought, too, of how many in a few days would read the work of my fingers during these night hours. Once in a while I took a turn in the saw-room, where the boys, as white as millers, with basswood sawdust, were making the sections fly; then I went to the wax-room, and saw the pleasant looks of those who had volunteered to work all night, and then again into the tin-room. And when I went home and could not sleep for a little while, I was so tired, I still felt happy in thinking of the boys and girls I had set to work and watched over (and *prayed* over) during the past years.

Once in a while a foreman comes round to me and says, "Well, now, that boy So and So is getting to be a pretty steady, manly sort of a fellow after all;" and as I look back I fall to wondering whether it is not really possible that he is going to gradually settle down to be a steady, quiet, useful, and intelligent man. Some have come here who lacked skill, and who at first did not seem to be good for much of any thing—so much so that, in a discouraged, disheartened sort of way I have continued to pay them wages week after week, more because I felt sorry for them, and hated to give them up, than because I had any need of them, or dared hope that they would ever pay for the trouble they made; but after long and patient teaching they finally took a start and began to grow, until many such are to-day valuable, skillful, and faithful helpers—yes, real helpers. As I think it over, the thought comes up, "May God be praised!"

Now, these are my neighbors; and do you wonder that I feel more faith in prayer than I did when I first commenced praying a few years ago? I know, dear friends, that every thing here at our factory is not as it should be, and some of you get very much vexed at the way we do things; but I feel encouraged through it all when I see how the friends keep coming to us year after year, even though we have many faults and failings yet, out of which we have not *quite* grown.

He which converteth the sinner from the error of his way shall save a soul from death, and shall hide a multitude of sins.—James 5: 20.

A PLEA FOR THE POOR DRONES.

FRIEND DOOLITTLE ADMONISHES US TO BE CONSISTENT.

AND God said, "Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every thing *that creepeth* upon the earth."—Gen. 1: 26.

In the last Juvenile our worthy editor gave us some good thoughts and advice, under the above verse of scripture, and I would that all would heed them and profit by them. But this text includes more than cats and animals of all kinds, for it tells us of "creeping things," so that we can just as appropriately talk of cruelty to insects, as of cruelty to cats, etc. Did any of you ever see children pull the wings and legs off from flies, bugs, and grasshoppers, and then let them go, to suffer and die in misery? I have, and it gave me pain to see it done, also causing a word of mild reproof to be given by me. I have also seen insect-collectors pin a beetle or a butterfly to the wall, there to suffer torture for days, that said insect might become one of his collection after it was dead. I can not think this torture as justifiable for any purpose, even if our good friend Cook (who was so kind to the colt that he took him into his buggy to ride) does tell us something in his book, "Manual of the Apiary," about such capturing of insects for dissecting under the microscope.

Now, children, our good friend "Uncle Amos" is guilty of cruelty to insects, as are others of our bee-family, even if he does plead in such a worthy manner for the pussy cats. Some years ago, it will be remembered, I criticised the A B C book, in which criticisms I took occasion to say that I always killed as few bees as possible in the manipulation of my hives; but where a bee's life was worth less than my time in trying to save it, I killed the bee, for bees were kept for profit by me. This brought a shower of letters in Gleanings regarding my cruelty to the bees, each arguing that it was not the profit we should look after, but for the comfort of the bees, and that God would hold us accountable if we killed bees carelessly. Just before his death, friend T. J. Cook wrote of this, on page 727 of Gleanings for 1883, in which he says: "I read of bee-keepers who say they crush bees to death, even those pets they love so well, when it pays better to kill them than to save them. O ye of little faith! A bee is very small to us, and one or two individuals look very insignificant, and of small moment; but consider that we are also of very small dimensions in the eyes of our keeper, or God. Have mercy on every thing beneath us, and then we may have reason to expect mercy from those above us." All of which is indorsed by the editor in his comments at the close of the article.

Now, I wish to say that the killing of any thing as speedily as possible, where said killing is to be performed for some reason, except wantonness, can not be called cruelty; but it is the *wanton* killing of a thing, or the slow torture of it, which brings the cruelty. If in any of my manipulations I chance to injure a bee, I always take time to see that said bee is killed by mashing her thorax, as that is the seat of life in the bee, and I consider it no sin to so kill a bee, if through the rapid manipulation of hives I chance to pinch one or more so as to cripple them. The point I wish to make is, that it is no more sin to kill one thing than another, and also to show that all the cry made against killing bees in manipulating hives, or by brimstone, is simply because there is a certain value in the worker-bee. To illustrate this, I am going to take some of the writings of "Uncle Amos" and compare them, and leave the reader to see if I am not right in the above, as well as to prove that he is guilty of cruelty to insects. In A B C, page 226, he says he has seen frames set on the ground so as to maim and mash the little workers, who then writhe in their death agonies, and then asks, "Why will people be so careless and heedless of the comfort and life of the rest of the animated creation?" Again, on page 278, he says, "A careless person might not be aware that he killed bees at all, and some do not seem to care; but to me, the sight of the quivering form of a crushed and mangled little fellow, when he is innocently standing in the threshold of his own door, is enough to spoil the pleasure of bee-keeping." Now we will turn to page 26 of GLEANINGS for 1880, where he tells us that it is shown pretty conclusively that any one who brimstones bees is liable to prosecution by law for needless cruelty to animals; and after tendering friend King thanks for calling the notice of the bee-keepers to the above fact, he asks, "My friends, shall the little bees whose comfort and safety seem to devolve particularly on us be less protected by the laws of our land than the horses and cattle?" Again, turn to page 331, GLEANINGS for 1881, and he says, "Our boys often leave queen-cages standing about, containing bees only, after the queen has been used. It is, of course, more trouble to take these dozen or so bees to a hive than to let them remain imprisoned and starve; but, my friends, the thought of these little fellows dying in this way would so haunt me that I could not be happy anywhere; and, busy as I am, I often take them to a hive and let them out myself, when nobody else will do it."

It will be noticed, that in all of the above the "little fellows" spoken of are worker-bees, hence of *value*.

Now, friends, it is my duty to take you to page 737 and 738 of GLEANINGS for 1883, where you will see that our good old father in bee-keeping, L. L. Langstroth, tells us of his cruelty to the poor and helpless drones; at the end of which, "Uncle Amos," who could not be happy over those few bees left in the queen-cages, and whose pleasure is spoiled by the sight of a mangled bee, tells us how peacefully and happily he sleeps, with a whole hive of drones left out in the cold and damp all night, which causes dreadful cramps to seize their limbs, and ague-chills to creep over their bodies, so that they are "found sprawled out upon the alighting-board the next morning." Hear him: "Toward dusk, put on the drone-guard over the entrance; shake off all the bees outside the hive, and every drone the hive contains is ready to be killed, or fed to the chickens, as you say, the next morning." Just think of it a moment; these poor, rheumatic, ague-chilled drones, which are nearly starved, with bones all aching by being kept from home and fire, out in the cold all night, are now to go writhing in agony, all crushed and mangled, down into the crop of the chicken, there to struggle till life becomes extinct! Oh my! The maltreating of that poor cat was no comparison to it; yet friend Root does not even chide father Langstroth, *nor himself*, for such a recommend. Why? because the drones are of no value! Friend Root, I am almost ashamed of you, because you plead so eloquently for that which is of value, and then let us know that you have no sympathy for that which is of no value, in allowing these poor drones to be thus shamefully and cruelly treated through your sanction.

I have much more I desire to say; but time and space forbid. I will close by asking if it were not better to control the production of drones to one or two square inches to each colony (except a few choice colonies, which should rear an abundance), rather than recommend drone-traps, as we are now doing, in which to catch the drones where they are at first of necessity tortured, and then afterward killed. I am fully as careful of the life of a drone as I am of a worker; and to this end, as far as may be, cut out the superfluous drone-comb, and fit worker-comb in its place. G. M. DOOLITTLE.

Borodino, N. Y., June, 1884.

Friend D., this is too solemn and sacred a matter for us to get to arguing about. Very likely I have been remiss; and if so, I will try to do better. It seems to me you have overlooked a clause in my article in behalf of poor kitty, where I make these remarks: "I know it is sometimes necessary to have cats killed, or got out of the way, when they become so numerous as to be intrusive; but, dear friends, this should be done with kindness and love for the poor dumb brutes, and with as little pain as possible, should it not?" It is necessary to kill mice, and, of course, it is also necessary to kill drones when they are a useless expense. I am very glad of your suggestion, that we should endeavor to kill them with as little pain and torture as possible. Some way I have got an idea that bees do not suffer very much when they become dormant from cold; for when they revive they seem to rally so quickly, and it occurred to me this would be as easy and expeditious a way of killing them as any. I do most earnestly recommend that instead of killing them, we prevent their useless production by the use of sheets of all worker-comb. I am glad to have you gather together, as you have, whatever I have said in behalf of kindness to the bees, and I would not have one word of it left out of the A B C book. When it is *necessary* to kill animals or insects, it is a Christian act to do it, if I am correct. The point I wish to draw out particularly is, that it is very wicked to kill or torture animals for sport; and friend Langstroth and I certainly had no thought of torturing the drones just for the fun of the thing. I do not believe my feelings were altogether selfish when I spoke of being kind to the worker bees, and then said what I did about the drones. I think I should be as careful about mashing drones in handling a frame, as I would about mashing workers, although I must confess the great awkward fellows never awakened my sympathies quite so much as the worker-bees with their vim and energy do. Now, then, shall we not, all of us, children and grown-up people, try to be kind and humane to both workers and drones, and "pussy cats" *too?*

THE BIRDS OF CALIFORNIA.

SOME CALIFORNIA NOTES FROM OUR FRIEND MRS. HILTON.

DID you ever hear the expression, "Make your head save your heels"? When I was a little girl I used to fly around, when I had any thing to do, in such a manner that I would be quite tired out, without accomplishing much; so mother used to say, "Are you making your head save your heels?" And even now I have to stop sometimes and ask myself that question, for I have no dear mamma to say it for me. I tell you this about myself because I do not want you to think I am like the man who was always saying that women either have no brains or else they do not use them, or else they would be able to do more work than they do, and save themselves much trouble. Now, that same man had to get breakfast one morning. He made the coffee; but as he had forgotten to see that there was plenty of water in the kettle when he made the fire, his coffee was too strong, so he took the hot kettle in his hand, took the lid off, and started to the faucet to fill it. Of course, the steam came from the kettle right on to his hand, and burned it badly. You see, he had not used *his* brains while he was doing housework. The main trouble is, that one sometimes has to attend to a number of things at once; and unless we are very careful, and keep ourselves cool and quiet, we are apt to do something we did not intend to.

Bees and flowers and birds seem so connected, that, if I write of birds in a bee-book, may be you will not think it out of place. When we have plenty of rains during the winter, robins are plentiful. They hardly ever sing here, as this is not their breeding-place. They give only the three sweet notes they usually use while hopping about, hunting for worms. No matter how hard it rains, you can see their red breasts shining through the rain.

The meadow-larks are a different-looking bird, somewhat, from the eastern bird. They are here all the time, but they are at their happiest just after a rain storm, when the glorious sunshine warms up all life. Then the air is filled with the sweet ju-bi-lee, ju-bi-lee — bi-lee — bi-lee. It fairly raises one off his feet, the song is so joyous.

This morning the killdeers were calling. Did you ever disturb one of their nests? Oh how the poor birds will cry! Passing near one while walking over a hill near a small lake, I was attracted to the nest by the queer actions of one of the birds. It was making a cry that sounded like "My baby, my baby," and it was stepping about with its wings stretched out, one up and the other on the ground, as though it would use them as a screen to hide the nest. I stopped only long enough to look at the four eggs so cosily hidden beneath some grass; but as long as I was in sight, the bird was crying, "My baby."

Then the linnets. They come as soon as the spring fairly opens. They love to build around the house, and wake us up with their delicious melody. If a stack is near the house, they will build their cute little nests all around it; but they are naughty birds. They take the lion's share of all fruits if you will let them. A swarm will alight in a cherry or peach tree, and how they will scold if you come near it, claiming it as their own especial property, even if you did plant it.

The quail are prettier and smaller birds than the eastern quails. They have a funny curved topknot that they drop over their bill while strutting, and their note sounds like "Be careful," said very quick and short. But I think of all the birds, I like the big owls that come and visit one another in the big live-oaks near our house, with their "hoo-hoo, hoo—who are you?" MRS. HILTON.

Los Alamos, Cal., April 29, 1884.

Mrs. H., I can readily subscribe to your quaint maxim about making the head save the heels. It is one of my biggest tasks here in the factory to suggest to the boys and girls means by which they can save steps and hard labor.

HONEY FOR FOOD, AND SOME OTHER MATTERS.

A TESTIMONIAL FROM MRS. HARRISON, IN FAVOR OF THE JUVENILE HONEY-CAKES.

I HAVE just been eating some of Lydia R. Smith's cakes; that is, made after her recipe, and her papa is a judge of what is "good." These cakes have set me thinking, and it would be well if it has the same effect on other bee-keepers, "How silly I've been to spend time selling honey to buy sugar, when honey is better, and the purest sweet known!"

I lately read in a paper an account of how many bushels of corn are daily manufactured into grape sugar, to be used, it said, "for the adulteration of sugar, honey, etc." That is one reason why sugar is sold so cheaply; for every pound of sugar has more or less glucose. If I buy glucose, I would prefer to purchase it pure, not mixed with sugar.

I'm glad children write, for they are wide awake, and will set us to thinking, and I hope they will tell us every way that they know, how honey is used. If that little girl away off in Washington Territory had not written her recipe, I should have had the cakes made of sugar. If I'm not mistaken, it was a little girl who asked her papa when she saw him boring a hole with a gimlet, to put in a screw, why the screws were not made with points like gimlets, and so the idea was born, of making screws with points, so that they did not need gimlets to bore holes first.

I've eaten gooseberries preserved in honey, and peaches canned with a teacup of extracted honey to a two-quart can of fruit, and they were excellent. Who will help to introduce honey? Take it to grange suppers, church festivals, old settlers' gatherings, picnics, etc. Use it in making layer cakes, and tell the people the cakes are made of honey, and many cakes of other kinds, of honey.

Will not some little girl work this motto and hang it in the hall of a neighboring grange—"My son, eat thou honey, because it is good"?

Peoria, Ill. MRS. L. HARRISON.

Mrs. H., have you not made a little mistake in saying that *all* sugar is adulterated? If I make no mistake, the granulated sugar you purchase is absolutely free from grape sugar, and the present low price at which sugar is sold comes from other causes than that of adulteration.—I am very glad indeed to see the tendency to use honey in place of sugar, for cooking. Friend Newman publishes a very nice little book, entitled "Honey as Food and Medicine," which every beekeeper ought to have, if he has not got it already.

FLORIDA.

A SKETCH BY ONE OF THE JUVENILES.

WE have sold most of our bees; got $8.00 a colony. We are going to move to Florida. Papa spent the winter there. At Tampa a traveler asked him what he had done in Texas that he had to leave there. It used to be, "What did you do that you had to come to Texas?" Papa says, though Florida is called the land of flowers, there are a great many more in Texas. The land there is too poor to grow them, but the climate is sometimes valued at a thousand dollars an acre. You see, we are selling our bees, cattle, sheep, and lands, to live on climate a while; but I guess we children will mix it in pretty well with oranges, bananas, and pine-apples.

I started out to tell you of two new discoveries. One is, my sister Bessie found that heavy knit woolen gloves are as good as rubber to keep bee-stings out of the hands, and are much pleasanter and cheaper. The other was, that the scissors-tail, or Texas bird of paradise, is a rascally and greedy bee-eater—worse than any bee-martin you ever saw. They are worse in the afternoon, this time of the year.

I have read through the "Story of the Bible," and like what I understood about it, very much. Mamma thinks you ought to sell a great many of them. Papa keeps his "Muller's Life of Trust" on the go all the time. The calendar clock we got of you keeps good time, and has a sweet bell.

MAMIE CALDWELL.

Mart, McLennan Co., Texas, May 26, 1884.

THE BEE AND THE TOMTIT.

A LESSON TO BE GATHERED FROM THE BEES.

Here and there about a garden,
Planted out with flowers gay,
Buzzed a bee, extracting honey
Out of all upon her way.

"Bee," exclaimed a twittering tomtit,
Perched upon a garden-wall,
"Poison lurks in many blossoms,
Yet thou gatherest from all."

"True," she answered, "I discover
Sweets in flowers of every kind;
Poison may be present with them,
But I leave all that behind."

It were well if human beings
Always acted like the bee,
By retaining in their memory
But the good they hear and see.

—*Chatterbox.*

IRWIN L. FISHER.

Napoleon, Henry Co., O., May 22, 1884.

Very good, friend Irwin. A great many times the poison will be unnoticed, and do no harm to anybody, if we pass along quietly and pay no attention to it. On the other hand, if we get into a habit of picking flaws with everybody and every thing, we can stir up bad feelings, and find poison at almost every turn we make.

A HORSE THAT COULD LAUGH.

SOMETHING ABOUT THE SAGACITY OF HORSES IN GENERAL.

DEAR CHILDREN:—I see so many interesting letters in your part of GLEANINGS that I want to tell you something to pay for the pleasure your letters have given me. It is about a horse, and I shall call it "The horse that laughed."

When I was in Evansville, Ind., I visited a family named Parsons. One day I wanted to go up town to do some shopping, and Mr. P. said I could ride up with him, and drive back alone.

"But," said I, "I won't know the way."

"You don't need to know it," said Mr. Parsons; "Daisy knows it, and she will bring you home."

When I was ready to go back I got into the phæton and held the lines real loose, and Daisy trotted on, turning a corner here and another there, making three turns in all. She guided herself around milk-carts, carriages, lumber-wagons, and ice-carts, and never grazed a wheel. Where they had been repairing the streets, and the ground was rough, she slacked up; and where the road was smooth she trotted on again. She stopped at her master's barn, and, turning herself a little, backed the phæton so that I could get out without touching the wheel. Then she went a little further and held her head to a hitching-post, to be tied. I tied her; but I begged her pardon for doing it, for it seemed to me an insult to tie up such a knowing beast. Then I went to the house and asked Mrs. Parsons if they would sell that horse.

"Oh no!" said she; "no money would buy Daisy. Why, Daisy laughed once," said she. "We had been attending a lecture, and when we started home it was dark, and a big storm was coming up. It thundered and lightened almost continuously, and the wind blew great gusts of sand into our faces, so that we were obliged to shut our eyes, and Mr. Parsons just gave Daisy the lines, and told her to go home. And she came; in all the rush and roar and frightfulness of it, she guided herself around other carriages, and the teams that we met; and just as we reached the barn, and drove in, and the great doors swung shut, Daisy turned her head, and, looking back at us, LAUGHED. It was not a neigh nor a whinney, but as clear and hearty a laugh as any human being could give. And I promised her then that a horse that could bring us home in such a storm as that, and then would laugh to think she had got us home in time, should never be sold. Good, trusty Daisy!" MAHALA B. CHADDOCK.

Vermont, Fulton Co., Ill.

Thank you, my friend, for calling attention to these faithful dumb brutes of ours. I have seen horses that showed a good deal of the faithfulness which you bring out so vividly, though perhaps not in quite so marked a degree. No wonder your friend wouldn't sell Daisy for money. I wonder if all of us appreciate the good faithful old horses we have about us. I know there is one down in our stable that money couldn't buy.

THE DISCOVERY OF SILK.

COMPILED AND WRITTEN BY MISS NELLIE LINCOLN ROSSITER, PRACTICAL SILK-CULTURIST, 6054 VINE ST., PHILADELPHIA, PA.

Conclusion.

"I WAS opposed to this project, which could never please me; but the king had already taken a fancy to it, and all that I said and could say was in vain. His objections, which he candidly states, related, however, not exclusively to silk-manufactures, but were intended to check the growing luxury. I dwelt," says he with his characteristic candor, "upon this subject as much as I could, to impress the more the king with my opinion; but I was unable to convince him. 'Are these all the good reasons that you can bring forward?' Henry said. 'I would rather beat the king of Spain in three regular battles, than be obliged to fight against all the gentlemen of the gown, all the scribblers, and fine gentlemen, with their wives and daughters, which you will raise against me, by your admirable regulations.'

"'Your Majesty is determined upon it,' quoth I, 'and I will say no more about the matter; but time and experience will convince you that France is not made for trappings and finery.'"

How much would Sully now be astonished, could he behold the evidence of his mistake, and of the foresight of his royal master! Instead of continuing to pay to foreign merchants four millions of francs annually for silk, the French draw many millions from their ancient suppliers, and enrich themselves in proportion.

In subsequent times, and especially during the reign of Louis XIV., silk-manufactures became so numerous, through the fostering protection of Colbert, that they have been, down to 1828, the most productive source of the wealth of France. The annual profits from this single branch of industry, in France, are estimated at forty millions of florins, of which a tenth is derived from the production of the raw material, and the remainder from the manufacture. According to the most recent statistical data, that kingdom derives, from the production of silk, in the twelve departments where it is attended to, 23,560,000 francs per annum, and 84,000,000 francs from the fabrication; and, consequently, the capital which is brought into circulation, in both ways, amounts to 107,560,000 francs.

England beheld, with no small degree of jealousy, the prodigious plantations of mulberry-trees in France, the increasing production of silk-manufactures. James I. accordingly endeavored to introduce this industry into his own kingdom; and, in 1608, a most earnest appeal was made to the British public, in regard to the advantages that might be derived from the planting of mulberry-trees; but, nothing was done, and only as late as 1820 was this subject seriously taken up; some inconsiderable experiments having sufficiently established the fact that these trees, and the precious insects which feed upon them, thrive as well in England as in France. But, long before that epoch, silk-manufactures had flourished, to a considerable extent, in England, the raw silk being imported from Italy. There existed already, in 1629, so many of these establishments in London, that the weavers of the city and of the environs were divided into corporations; and in 1661, the individuals which composed them were more than 40,000 in number. The revocation of the edict of Nantz, in 1685, contributed greatly to the future progress of this industry—the most skillful French weavers having taken refuge in England. Next to this cause of the rapid progress of this manufacture, must be mentioned the silk-machine erected at Derby, in 1719. The reputation of the English fabrics increased, at length, to such a degree that, even in Italy, as it is stated in Keyser's Travels, English silks commanded a higher price than the Italian.

ANOTHER LETTER FROM JAPAN.

BY THE LITTLE GIRL WHO GAVE US THE PICTURE OF THE PALANQUIN ON PAGE 127.

DEAR MR. ROOT: — Many, many thanks for sending the things you promised. The book is very interesting. I enjoyed reading it very much, and the knife is in constant use.

The Japanese have a flower-show several evenings each month. They are ten days apart, beginning on the 9th. They are very interesting, and we like to go to them very much. They are usually on some principal street, and are always accompanied by various stalls containing toys, hairpins, combs, cakes, nicknacks, and sundry articles, which attract the attention of the Japanese children.

The flowers are arranged very tastily on shelves. Sometimes there are little arbors in the shape of houses, boats, etc. Daisies are often arranged on a large flat board. Here you can get magnolias, chrysanthemums, camelias, poppies, cowslips, verbenas, hydrangias, roses, and almost any flower you may wish. All the year round you can get *some* flowers; for instance, in the spring you can get magnolias, and blossoms; in the summer, verbenas, cowslips, daisies, roses, and such like; in autumn, poppies, hydrangias, dahlias, etc.; and in winter, chrysanthemums, pretty grasses, small plants, etc., so that all the year round you can get something.

Besides these small flowers and shrubs you can get large trees; pine, maple, and evergreen are the most common; but you can get willows, fruit, and other trees. It is a busy scene at about ten o'clock P. M. Every one is stirring about; nearly every person has some flower or plant, and every child has a little toy or bag of cakes. The stall-keepers cry out their wares, and beg the dánnásámá, (master) to buy them, for they will sell them "tisó yásükü" (very cheap); but though they invariably say so, they very seldom carry out their "very cheap," but, instead, ask *twice* the proper price.

I will tell you, that palanquins are not used *all* over the country *now*. Here in Tokio it is a rare sight to see a lady or gentleman in one; but in the country they are common. In Tokio they use, instead, a two-wheeled cart, drawn by a man. They are called "jinukishaw." A man will pull you *three* miles, running all the way, and back again, for 18 sen, and he would take you *two* miles and back for 12 sen.

I will answer your question about the singers, and tell you they are a piece of bamboo and a small whalebone, which causes the singing, when the wind blows. This is attached to the kite.

ADA KRECKER.

Tokio, Japan, April 24, 1884.

Thank you, friend Ada, for your kind description of the queer ways of our cousins away off there in Japan.

JUVENILE·DEPARTMENT

Every girl or boy, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock, six different books, as follows: Silver Keys, Sheer Off, The Giant Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

"A chiel's amang ye takin' notes;
An' faith, he'll prent it."

HERE we are, little friends, in the midst of bees, honey, clover-blossoms, strawberries, and flowers. Speaking of strawberries reminds me that they are what I take for medicine. Don't you all think strawberries are good medicine? I do. You see, when so many clerks kept coming to me with so many questions from morning to night, all day long, I used to get kind o' confused sometimes. For instance, when I would be dictating a letter to some of you for the shorthand writer, one of the book-keepers would want to know about some letter; then the express clerk would come and want to know what this man wanted. He just says he wants "skeps." Then some other man writes that he wants a bee-hive with "slides" in it. I would tell one of them, that if a man asked for a skep he meant a hive, and that the other fellow meant movable frames. Then somebody would say that they wanted more wax in the wax-room; some more tin in the tin-room; some more twine in the sample-room, and some more paper in the press-room; and pretty soon I had forgotten where I left off, and the story I was dictating, and then my head would feel kind o' twisted like; and after a while I wanted to go outdoors and get out among the bee-hives; but the purple basket was full of letters that must be answered immediately. One man wanted his money back, because he could not wait any longer. Another one said our clerks had written him three times that his hives should go next week. Then the boy from the station brought in three telegrams, to be answered at once.

Well, the folks said I would get sick if I worked so many hours, and had so many cares; but I told them, that if they would give me plenty of nice strawberries, some nice bread and butter, and a pitcher of milk, I would not get sick. So they did, and now there is plenty of wax in the wax-room, tin in the tin-room, and ever so many tons of paper in the press-room; the clerks' questions have all been answered, and the man who wanted his money back was written to that his goods were all shipped the day before, and I am feeling real well, and happier than I have any right to this bright June afternoon.

Now if you will excuse me, I will go and see if that was so, that the clerks had written to a man that his goods would go three times "next week." I am really afraid that he is at least partially right about it; but I am sure that it was not because they *meant* to deceive him in the least.

SEVEN LOST OUT OF 24.

Pa bought 24 hives of bees in the fall, but the winter has been so severe that 7 of them died. Pa makes bee-candy out of white sugar, and feeds it to the bees. CYNTHA WEESE, age 10.

Lynn, St. Clair Co., Michigan, March 2, 1884.

EVA'S REPORT.

My pa has 92 swarms of bees. He took 100 swarms out alive this spring. We bought a barrel of sugar to feed the bees. They have gathered some honey this spring from the apple-blossoms.

EVA FARRINGTON.

Strawberry Point, Clayton Co., Ia., May 26, 1884.

A DUCK-CREEK BEE-KEEPER.

I have one colony of bees, my mother has one, and my father has five. I live in the oil region, on Duck-Creek valley. I have two brothers and one sister. Father sent to Maryland and got two swarms of albino bees, and received them on the fourth day of July. This spring one swarm died.

A CURE FOR DYSPEPSIA.

I will inclose a recipe for dyspepsia. It has cured my father. I think everybody should know it. One-half teaspoonful of salt dissolved in a glass of warm water, to be taken before breakfast.

S. H. PATON, age 10.

Mackburg, Ohio, May 23, 1884.

MY OLD HOME.

Three years ago my mother and I moved to Wakarusa, Ind., from my pleasant old home in Guilford, Medina Co., Ohio. It was the nicest place I ever saw. I used to go fishing with my little cousins Eddie and Henry. I used to think it was the nicest thing in the world, when Uncle Peter used to climb the chestnut-trees and shake the bright brown nuts off, and my cousins and I pick them up "on halves;" and what nice times we used to have making maple sugar and molasses! We used the old horse and sled, and gathered the nice sweet sugar-water.

C. W. LOCKER.

Wakarusa, Elkhart Co., Ind., May 17, 1884.

BEE-STINGS FOR SALT-RHEUM, ETC.

We had 42 stands of bees last spring, and got 3250 lbs. of honey, and sold a good deal of it. I make section boxes, and help mamma nail frames for the hives. I do not like extracted honey so well as the section honey. The section honey is prettier than the extracted. Every summer papa takes honey to Bradford and Buda, and has a real long ride. He keeps his bees in the cellar in winter; he has it pretty full, with the other things. Our cellar never freezes.

Mamma has salt-rheum a good deal, and has found that bee-stings will cure it. In the summer she works with the bees a good deal of the time, and has a girl to do the housework; but in winter the salt-rheum comes out, and then she goes down in the cellar and lets a bee sting her. Papa and Mr. Thompson made their own hives until last fall, when there was a tornado that blew the windmill down which ran the saw, and now they have to buy them already sawed. Papa has a lot of material in our back room. There is a lot of dead bees on the cellar floor. MAUDE MORRIS, age 9.

Tiskilwa, Ill., March 1, 1884.

Very good, Maude. We are glad to get the valuable facts you furnish in regard to bee-stings for the cure of diseases. We are very sorry that your wind-mill blew down; but I suppose a tornado is too much for even the best-behaved wind-mills.

ASA'S RED-STAR APIARY.

My pa has 19 stands of bees. I have 4 stands. I painted a red star on each of them, in order to distinguish them from pa's, and I call it the "Star Apiary." ASA WRIGHT, age 10.

Reagan, Falls Co., Texas, Feb. 29, 1884.

MAKING HIVES BY HORSE-POWER.

Pa has 50 stands of Italian bees. They have wintered well. Pa has his bees packed in chaff. He has a little horse-power that runs a circular saw, that he uses to make his bee-hives. He is making chaff hives now for his bees next summer.

MARY L. SESLER, age 9.

High House, Pa., Feb. 29, 1884.

GEORGIE'S LETTER VERBATIM.

WE-hAvE-SomE-BEEs▪-I-H ave-SEEn-tHE-qUEEn
-SHE-is loNGEr-t-HaN-T H E-WoRKEr-I-H aVE-A
PET-GaT-▪MoSES-tHR E-yEaRS-oLD-nd-PLsEnD-
▬ME-sHEER-oFF GEoRGiE RoUSE

Now I suppose Georgie is feeling badly because he doesn't get a book according to our promise; but, dear little friends, how can we send him a book when we haven't an idea where in the world to send it? You see, he doesn't tell where he lives, "nor nothing." Tell us where you live, Georgie, and we will send the book.

HOW TO RAISE CELERY, ETC.

As I found out how to plant celery, thyme, and sweet majoram, I thought I would write and tell the juveniles how to plant all such light seed as those. Well, they require scarcely any covering at all; and when the ground is fine, and not too dry, sowing on the surface, and gently pressing down with a board, is sufficient. MARY M. GRAHAM.

Homer City, Ind. Co., Pa., March 3, 1883.

BERTIE TELLS HOW HIS FATHER MOVED THE BEES SUCCESSFULLY.

This is the first time I ever tried to write a letter for a paper. My father has about 150 swarms of bees; part of them are Italians. He moved our bees last October to Highland, a small place on the west side of the Hudson River, near New York. There are great quantities of fruit raised there. When pa moved his bees they went splendidly. He closed the entrance and gave them ventilation from the top. He went in the car with them. My brother and I helped him take care of them last summer. Pa got about three tons of honey last year.

BERTIE ALEXANDER.

Camden, N. Y., March 6, 1884.

MAGAZINES FOR CHILDREN.

Do please tell us, through GLEANINGS, where those two magazines are published, and at how much per year, that you speak of in March GLEANINGS, page 173—Blue Eyes and Caddie. They are novel names for magazines, and I am just going to tease pa to take them for me. I know they will be full of fun. I wish I had a book.

Oberlin, O., March 4, 1884. RUBY JONES.

Why, bless your heart, my little friend Ruby, Blue Eyes and Caddy aren't magazines at all; they are just live little girls. May be some day they will publish a magazine, they two together, and I suppose it would likely be a little-girls' magazine too. The magazine I was talking about is T. S. Arthur's, and this is the one that Caddie and Blue Eyes are fond of reading.

ARE BEES ALWAYS TRYING TO STING SOME ONE?

My grandpa has five colonies of bees, and I got stung twice last summer. I like bees, only they are always trying to sting some one. I am afraid of them. I have run a long way for grandpa to hive a swarm of bees. MARTHA BAKER, age 13.

Vail, Iowa, Feb. 28, 1884.

Friend Martha, I am afraid that is just a little bit of a slander on our friends the bees. Bees sometimes get naughty, like children, and then they seem to delight in making trouble and getting into quarrels. Do you know what makes them naughty? It is leaving honey around so they get a chance to steal; and when they get to stealing they get unhappy, just as folks do when they steal, and then they go buzzing around, cross and crabbed, instead of working in the fields with a merry, happy hum. So if you don't want them around trying to sting somebody, don't tempt them to bad habits by having honey daubed about.

THE OLD-FOGY BEE-KEEPERS, ETC.

I am a small boy, though I am 11 years old, and I like to read your paper, and see how many little girls and boys write to you. My grandfather and one of my uncles, and my father, have about 200 stands of bees; they are all old-fogies but my father; he uses the Simplicity-Langstroth. I want to ask you a question. In opening a hive yesterday, the two back frames were full of honey that was smeared over with some milky-white substance. Can you tell us what it is? JOHN W. ROUSE.

Shepard, Ill., Feb. 28, 1884.

Now, John, aren't you a little rough on your grandfather and uncle? It seems to me they are not very old fogies, if they count their colonies by the hundreds. May by they will "go for" you when they come to see your letter in print.—Your question is almost a stumper. I do not know what there should be in a bee-hive that is milky white, unless it is brood that is almost ready to cap over; but it seems to me that would hardly answer to your description. If anybody had been cutting out the drone-brood, it might be that the milky juice ran out on to the honey. But as you describe it, this was found when the hive was first opened. Perhaps your father can give us some more light on the subject.

BEES HANGING OUT IN THE RAIN.

My pa has 13 hives, all working nicely. We take GLEANINGS. It is raining to-day. Some of our bees were out to-day, and got so wet they could hardly crawl. I saw a worker chasing a drone; it was real funny to see him. HARRY REAVIS.

Itasca, Tex., June 3, 1884.

I believe, Harry, that modern bee culture dispenses with hanging out, or, at least, pretty much all of it, unless the weather should be extremely sultry, at a time when they were not gathering much. I, too, have known bees to cluster outside on the old-fashioned box hives, so long that they got drenched during heavy storms, and died. I presume the occasion of it was, that they had got their hive completely filled, and their owner gave them no more room. I hope no one who reads this will be guilty of any such wastefulness; not only because of the loss of honey, but for the sake of the poor little bees that had no home big enough to shelter them.

HOW LONG WILL A SWARM HANG IF NOT CARED FOR?

Pa had 3 swarms in the spring, and in the fall he had 14, and the first one went off; 2 of them were so weak he had to take them up; but as he had only box hives, he could not transfer them. We did not sell much honey, for it was a poor honey season. Last fall a small swarm of bees came and alighted in one of our trees, and they were up so very high, and there were so few of them, that we did not do any thing with them. They stayed right there, scarcely any of them leaving, until they either starved to death or froze.

KATIE L. SWAN, age 13.

St. Catherine, Linn Co., Mo.

Friend Katie, you have furnished us a valuable fact. I know swarms sometimes build combs, and store honey right where they clustered, if not taken down and hived; and if they should come out late in the season, when no honey was to be gathered, I presume they might starve, just as you say yours did. Were you not sorry for the poor little homeless fellows?

A LETTER FROM ONE OF OUR NEW-HAMPSHIRE JUVENILES.

I know how to pity the little girl who got stung on her ear, for I got stung on my tongue by eating honey that had a sting in it. It was one day in the summer when we were taking out honey.

We had good luck with our bees last summer; put 19 swarms into the cellar. I like to watch the bees bring in pollen and honey, they look so pretty. My swarm gave me one new swarm and 76 lbs. of honey. I sold my honey for 25 cts. per lb., and it brought me $19.00, and I sold my new swarm for $5.00, and so I received from my one swarm of bees $24.00, and have got my old swarm now.

We raised some buckwheat last summer, and the bees worked on it; it was full of bees. We could see them flying back and forth laden with pollen and honey. We raised a good deal of white and alsike clover, and the bees got a good deal of honey from that. We cut out a number of queen-cells last summer, and in one of them we heard the queen making a little noise, and so I took it and put it in a box with some bees, and kept them in the house, and the queen hatched, and we put it into a hive.

I read in the JUVENILE about catching swarms on a pole, by putting a dark-colored stocking on the pole, and so we tried it. I had 5 cents for each swarm I caught; I think it a very nice plan.

Papa is fond of his colts, and has some pretty ones. I help him water and take care of them. One is mine. His name is Rob Roy. I can drive him in a sleigh. He is two years old. I have got a trio of Seabrights; they are spotted gold and black; one has begun to lay; has laid six eggs. I have a black kittie; I call his name Blackie, and I like him, he is so cunning. ABBEY E. FREEMAN, age 14.

Lancaster, N. H., Feb. 27, 1884.

TWIN LETTERS FROM TWIN BEE-KEEPERS.

MY PA HAS 1 SWARM OF BEES. THEY LIT ON A TREE CLOSE BY THE HOUSE. WHEN PA CAME TO DINNER HE HIVED THEM. I HAVE A TWIN SISTER. SHE WANTS TO WRITE SOME TOO. IS THIS WORTH A BOOK? ORA FRIED.

WE LIKE OUR BEES, BUT THEY BUILT THEIR COMBS ACROSS THE FRAMES. PA WANTS TO KNOW WHETHER IT CAN BE STRAIGHTENED. ORA AND I READ IN THE FIRST READER. WE ARE SIX YEARS OLD.

CORA FRIED.

MONTPELIER, OHIO.

HOW EDWARD HIVED THE SWARM WHEN THE HIRED MAN WAS AFRAID.

Last summer it was my work to watch the bees, to see if they would swarm. One day pa and ma and my two older brothers were gone away, and the bees swarmed, and I ran and told the hired man, but he was awful afraid of bees; but he put on a veil, and then he got them off the tree, and he and I hived them, and they did well. I have a little brother 3½ years old. He likes to fire up the smoker for Pa. I have only one sister; she is 9 years old. She likes honey and so do I. EDWARD J. SHAVER, age 11.

JACOB'S REPORT.

Pa has lots of bee books and papers, and I like to read them. He got a bee-hive from Mr. J. W. Porter, of Charlottesville, and he thinks of trying one hive on Mr. Heddon's plan, and see which he likes best. We got lots of honey last year, and nearly all in 1-lb. sections. Pa sold all the honey he had to spare, at 20 cts. a pound, and could sell more if he had it. We did not have any bees to go off in the woods. Pa won't let us make a noise with pans and horns, as some people do when the bees swarm. He says he doesn't want them scared off.

JACOB D. SHAVER, age 12.

AND STILL ANOTHER REPORT FROM THE SHAVER FAMILY.

I read GLEANINGS, but have not seen any names in it from this county, so I thought I would write and tell you about our bees. Pa looked at all his bees a few days ago, and he says that, so far, they have wintered finely. He winters on the summer stands, with corn-fodder around them. Pa has all his bees in Langstroth hives except 3. They swarmed so much last summer that he did not have enough hives, so he put 3 swarms in old-fashioned bee hives; he will transfer them next spring into other hives. Pa talks of building a shop next fall, then I can help make hives.

SAMUEL W. SHAVER, age 14.

North River, Va., Feb. 29, 1884.

HUNGRY BEES.

We had a swarm of bees about a month ago, but they went back in the hive, and the next day they were all dead. Pa said they were hungry. He had a good many bees last fall, but he robbed them so close that about ten of them have died.

Lizzie Johnson, age 6.

Thomas Hill, Randolph Co., Mo., May 3, 1884.

Lizzie, I rather think your pa hit the nail on the head, and I am afraid that a good deal of the unseasonable swarming out and other tricks that puzzle us are caused by the bees being hungry. The swarm you mention came out because they were starving, and your pa should have taken this as a signal of distress, and fed them before they died. It never pays to let bees go hungry; and just now, when fruit-blossoms are over in many places, is the time to be on the watch.

ONE OF THE JUVENILES FURNISHES A LETTER FOR BLASTED HOPES.

We noticed in Gleanings you wanted reports of failures. We commenced the spring of 1883 with four hives; they had increased to 8, but they have gone down to 6, and two of them are very weak. The dead bees had closed up the entrance of one hive, and the rest of them had almost all smothered; the queen is still alive. We bring them into the house at night, to keep them warm. We got no honey, and we fed 50 lbs. of sugar.

Lizzie B. Paul, age 11.

Penn Run, Indiana Co., Pa., April 1, 1884.

A COUPLE OF LITTLE LETTERS FROM A BROTHER AND SISTER.

My pa has 52 colonies of bees. They all wintered well but three. I help him make foundation. Pa made a bee-house this spring. I wire frames. We have a little colt and 7 little pigs. Ma has 45 little chickens and 5 little turkeys. I have 2 pigeons.

Willie Bolton, age 9.

I am a little girl 7 years old. I go to school. I read in the First Reader. My sister and I have a playhouse. We have a canary bird.

Stanley, O., May 22, 1884. Elva Bolton.

A MINNESOTA LETTER.

Father has about 150 swarms of bees. He lost a great many last winter, but now he is buying quite a good many more. He made a dovetailing machine last winter, and it works nicely. I am going to put up sections this summer. I do not go to school now. We have a dog, 3 cats, 22 hens, 32 small chickens, a cow, a calf, and 2 horses. Father had to feed the bees this spring, for this is a cold, backward season, and it is raining all the time now, and they can not gather any thing.

Jewell Taylor.

Forestville, Minn.

HOW ARCHIE'S PAPA GOT OVER THE BEE-FEVER.

My papa is a bee-keeper, and has been for several years. He took once what many people call bee-fever, and had it about six months; but one day he started to take some honey from the bees, and they came near stinging him to death, and he has never had the bee-fever since. Pa's bees have wintered nicely so far. Last spring I found some bees cleaning out a tree, and I thought the tree was full of honey till we cut it down, and the bees were just cleaning it out. I do not like tobacco, nor anybody who does like it. There is no Sabbath-school here now, but soon will be.

Archie Bamar, age 12.

Wartrace, Bedford Co., Tenn., March 11, 1884.

AN IMPORTANT FACT ON THE TOBACCO QUESTION, BY ONE OF THE JUVENILES.

Pa had 12 swarms of bees in the fall, and now has only 5. The rest have all died. The bees did not gather much honey last summer, and pa had to feed them all winter.

Willis Phelps, who used to live in Medina, O., married my sister. He was very sick this winter, and the doctor told him to quit the use of tobacco, or it would kill him; and since, he has not used it.

Ella Pauls, age 11.

Canon City, Col., March 3, 1884.

Well, Ella, I am very glad indeed to hear from my old friend Willis Phelps. It seems to me that almost anybody would give up tobacco under such circumstances, and I hope his experience may be a warning to the boys who think of commencing. We send you by mail to-day a smoker, which please give to friend Willis, with my respects, and tell him it is his so long as he never uses tobacco.

A NOVEL METHOD OF STOPPING ROBBING.

My pa has 12 swarms of bees. He lost all of his bees but two swarms three years ago this winter, and those were so weak that a neighbor's bees robbed them. The way to stop robbing is, to mix yeast with honey, and let them carry it into their hive. It will make their honey run so that they will have enough to do at home. My pa does not take Gleanings, but my uncle Sidney does, and we have it to read. I have read the Story of the Bible through once, and have got it almost read through again.

Lottie Wallace, age 9.

Cattaraugus, N. Y., March 6, 1884.

Friend Lottie, it seems to me that would be a little risky, would it not? Some years ago I heard it mentioned that you could ruin a colony of bees by feeding them with yeast, for it would set the whole hive into a ferment, and make the honey all boil out of the cells. This may be true; but I am somewhat inclined to doubt it, because a good colony of bees, when strong and healthy, seem to have the power to stop fermentation. Can anybody tell us any more about this matter?

BERTHA, AND HER HOME IN THE SWAMP.

My pa commenced this spring with 75 stands of bees; has made 15 new swarms by dividing, which makes 90 altogether. He lost 7 swarms before the new hives came. I think the new hives are very nice. I put the frames together while pa nails the hives. I keep house for him, for my ma died when I was 7 months old, so my pa has had to raise me. We live on Little River, in the swamp. Pa says it is the best place for honey he ever saw. The bees make honey from the wampum-bloom and elk-vine in the summer, and from heart's-ease in the fall. I should like to have a play with Blue Eyes and Huber.

Bertha E. Bates, age 13.

New Madrid, Mo., May 2, 1884.

I am very sorry indeed to know that any of the friends have lost bees in consequence of the delay of hives. We thought the great stacks of them that we had put up would surely last during the rush. I do not know what we shall do but make a still bigger stack, and then ask the friends to please order early where it is a possible thing. Your little letter makes me want to go and see you, for I always did like swamps ever since I can remember; and during these dry hot dusty days, it seems just as if a swamp by the river, where lots of honey is to be found, would be just the nicest place one could imagine.

WHY WOULDN'T THE NEW SWARM GO INTO THEIR HIVE?

My brother left me to watch his bees to-day, to see if they would swarm. About an hour after he left, one hive started to swarm, and they came out and alighted all over the grass, then they arose and clustered on a branch of an apple-tree. They were hived, and a white sheet thrown over them, and every thing seemed all right; but when my brother came home and looked at them he found that they were all clustered on the front of the hive, and did not go in at all. So he thought they had no queen, and he put them back into the hive where they came out. The racks were filled with foundation. Why, do you suppose, would they not go in? He had three firsts and a second all right this year before; first one swarmed on the 17th of May.

M. A. STEWART, 2—6.

Bowood, Ontario, Can., May 30, 1884.

It was not because they had not a queen, my little friend, for a new swarm very often gets up on the outside of the hive instead of going in—especially if the weather is hot. Before the swarm is put down in front of the hive, I would shake off just a few, say a teacupful, before the entrance; and when they begin buzzing and crawling in, then shake down a few more; and after they get started well, put them all down. If they commence gathering upon the side of the hive or portico, brush them down with a slender stick that won't hurt them. I like a comb-guide to a frame the best of any thing. You can scrape them off with this, or pat them on their backs when they loiter too much, without hurting them or making them angry. A good many times they do not take to foundation at first, because they do not know what it is; but if they find a comb with some brood in it, they get the hang of it very readily. We hived a new swarm a few days ago in that Hetherington hive I described to you, but they came out in a little while, and clustered. The hive was so near like our Simplicity that we had but little trouble in hanging one of our frames filled with brood, right in between the sheets of foundation. They all went to work then, and drew out the foundation in splendid shape.

HONEY-PLANTS OF ARKANSAS, ETC.

Last winter papa moved to the mountains. He thinks it is a good bee country. He has 12 hives of bees, all in good order. In the winter he found a bee-tree, and early this spring he and one of the neighbors took a hive and went to cut it down. They had a "right smart" of honey, but the other bees got to robbing them, and papa stopped up the entrance; but after a while he found there was a crack where they had been going in, and had eaten up all the honey. Papa gave them some more, and they ate that up too, and now they have none, only as they gather it. They seem very well satisfied. Simpson honey-plant grows here 8 feet high in the woods. Some basswood grows here in the woods.

LILLIE E. MANUEL, age 11.

Winslow, Ark., May 21, 1884.

A LETTER FROM THE SHORES OF LAKE MICHIGAN.

We have seven swarms of bees. None died last winter. They sting me quite often—I think too often for my part. My sister Arlie has been stung but two or three times. We have two places—one on the shore of Lake Michigan, the other two miles west from Mears. The one on the shore of Lake Michigan is four miles down the beach to Pentwater; the two places are three miles apart. Ma and John (that is the boy we adopted) stay on the place on the shore of the lake. Pa and two hired men stay on the other place. I keep house for them. We go home to the place on the lake-shore every Saturday night.

I was ten years old the 10th of last December. We have two horses, Eliza and Curly; one cow, Rosa; one calf, Bright; a dog, Shep; a cat, Tim, 16 years old; two doves, Med and George; a canary bird, named Dixie; a hen named Katy, a rooster named Fig.

EDNA MABEL GRAVES.

Pentwater, Oceana Co., Mich., May 13, 1884.

WILL A QUEEN LAY DRONE-EGGS IN WORKER-CELLS?

Given, a brood-frame with 3 sq. in. of drone comb and the rest worker, is a queen a drone-layer that refuses to lay in any but the drone-cells, and when put on another frame finds her way back to the drone comb immediately?

I have 13 young calves that my girl-baby calls "*my* calfies." Wouldn't they make Huber's eyes "bung out" if he could see them romping in the yard?

D. W. KING, 1—1.

Maitland, Holt Co., Mo., May 16, 1884.

A queen that is failing will often lay drone eggs in worker-cells, but I believe never otherwise. In the case you give I should say the queen was played out, or idiotic, and that the best thing to do is to replace her with a good one.—You have just about hit it on Huber, whose great hobby now is "bossies," and nothing gives him such enthusiastic delight as to be carried out in the fields among the cows and allowed to put his hand on their noses. I have told him all I know about cows several times already, but the subject is still of unfailing interest.

CREAM CAKE, BY ONE OF THE JUVENILES.

Mr. Fry, a neighbor of ours, has two stands of bees. They got 50 lbs. of honey last fall. I can wash the dishes, make the beds, sweep the floor, and many other things.

CREAM CAKE.

Take one cup of sugar, one egg, one cup of sweet milk, one tablespoonful of butter, two heaping teaspoonfuls of baking powder; flavor to taste, flour to stiffen; bake in layers.

CREAM.

Beat one egg and one-half cup sugar together; then add one-quarter cup of flour, wet with a very little milk, and stir this mixture into one-half pint boiling milk until thick; flavor to taste; spread the cream when cool, between the cakes.

CORA FORNEY.

Falls City, Richardson Co., Neb., March 6, 1884.

FIVE PECKS OF DEAD BEES.

I am 8 years old, and I wire frames. I heLPeD Pa With the bees laSt suMMer, and got a good many stings. I haVe one hive of bees. They ArE in ThE CrLlaR with PA's. Or y about *five pecks* oF 96 ColoniES so far HavE Died. We sAW the steam rise in CloUds fROm laKe OntArio this MorNing w en It was very coLD.

SpEncer OrvIS.

WHitby. Ont., Canada, Mar. 3, 1884.

JOHN'S EXPERIENCE IN QUEEN-REARING, ETC.

Last summer I helped pa make several nuclei, and in one the young queen got lost, I suppose, during her wedding-flight, and we gave them another queen-cell, and the young queen hatched, and she was a nice one; but after 5 or 6 days we saw her crawling about at the entrance, and a few bees with her; and in examining the nucleus inside, the bees were all gone except 30 or 40. What had become of the others is a mystery to me. There was some honey left, but no brood; could they have deserted the honey and queen, and gone off without a queen? We introduced the queen in another nucleus which had no queen; she did well, and by fall they made a strong colony. We had from a hive a second swarm with a virgin queen, and we hived them three times; they did not want to stay, and the last time we hived them we gave them a frame with brood, and then they stayed.

We had a large swarm which, being at work four days, all at once swarmed out again; they had several pounds of honey, and plenty of eggs, as we gave them one frame of comb. We hived them again in another hive, and gave them the same comb and eggs which they had deserted, and placed them in a shady place; they went to work and filled the hive, and filled 8 1-lb. sections full of honey, and would have made 24 lbs. more if the weather had not set in so dry.

The colony of bees which my pa gave me last year did well. I obtained from them 60 lbs. of comb honey and 24 lbs. of extracted, and 2 swarms, so I have 3 very good colonies to commence operations with this year. So you see that I shall be a bee-keeper, as I stated in my last letter in March JUVENILE of 1883. JOHN V. NEBEL.

High Hill, Mo., Feb. 29, 1884.

I think, friend John, the reason why your bees swarmed out was because they had no unsealed brood. This is a very important matter, and our practice is to put in some unsealed brood, if the hive contains none, at about the time the queen shall take her flight. Unless you do, the bees will often go out with her, and then scatter about and get lost, just as yours did. I should say, John, that you are a pretty fair bee-keeper already.

THE SWARM THAT WAS PUT INTO A NAIL-KEG.

Pa has 22 colonies, and my sister has two. Pa went away one day, and left my sister and me at home to watch the bees, and he told my sister all that swarmed she might have. She got one swarm, and put them in a nail-keg, and tried to make them go in at the top. They filled the keg full of honey the first year, and swarmed once. My pa lost three colonies this winter. We didn't get much honey last year; bees did not do well here. They made most of their honey from the Spanish needle. Our bees are the blacks. Pa uses the Simplicity hive. None of my brothers use tobacco.

McCune, Kansas, 1884, LIDA THOMPSON, age 9.

It does not seem to me that a nail-keg would be a very nice place for bees, friend Lida; but I suppose they considered it their duty to go and fill up with honey whatever kind of a fixing you gave them. I presume your sister will have a good nice hive for them when they swarm, will she not?

HOW TO MAKE COCOANUT PIE.

For a pie, put a cup of grated cocoanut to soak over night, if it is desiccated; if fresh, you need not soak. Place in a coffee-cup, and fill it with milk. When ready to bake, take two teaspoonfuls of flour; mix it with a cup of milk or water; place on the stove in a tin pail; place in a kettle of boiling water; stir until it thickens; add a teaspoonful of butter while warm; when cool, add a little salt, the yelks of two eggs, sugar to taste; add the cocoanut, beating all together; fill the crust, and bake. When done, beat the white of two eggs with three tablespoonfuls of powdered sugar, spread on the top; return to the oven, and brown lightly.

SARAH RHOADES, age 14.

Falls City, Richardson Co., Neb.

HOW TO MAKE ICE-CREAM CAKE.

Whites of 8 eggs, 1 cup of sweet milk, 1 cup of butter, 2 cups of sugar, 2 cups of flour, 1 cup of corn starch; 2 teaspoonfuls of baking powder mixed with the flour, cream, butter, and sugar; add the milk, then the flour and corn starch; add the whites beaten very white. Bake in cakes about an inch thick.

ICING FOR BETWEEN CAKES.

White of 4 eggs, beaten very light; four cups of sugar, one-half pint of boiling water over the sugar, and boil until clear, and it will candy in cold water. Pour the boiling syrup over the beaten eggs, and beat hard until the mixture is cold and to a stiff cream. Add, before it is quite cold, one teaspoonful of pulverized citric acid, 2 teasponfuls of extract vanilla; when cold, spread between the cakes as thick as the cakes are.

PARNEL DAVISSON, age 13.

Falls City, Neb., Feb. 25 1884.

Very good, girls; but for a bee-journal we ought to have recipes for making cakes and pies with honey. By the way, can't we have a honey pie? It seems to me that some of our smart girls might work it out. If it can't be done any other way, have it something like a strawberry shortcake. It might not be a pie, but perhaps it would be just as good by some other name—honey shortcake for instance.

THE BEE-BRUSHES.

Pa has 16 hives of bees, all in good condition. He received some goods of you. He was pleased with all but the brushes. They were counter-brushes instead of bee-brushes. I help papa at the bees; I like to be about bees. I own one good swarm, and my brother Jones owns one.

BARTON HORST, age 14.

Goodville, Penn., March 5, 1884.

At one time we could not get the bee-brushes, and so we put in some brushes we keep on the ten-cent counter, which answer very well, only they are a little heavy to handle. As they are handy for other purposes, I think they are well worth a dime, do you not, friend H.?

TWO BEE-KEEPERS—A YOUNG ONE AND AN OLD ONE.

My pa put 148 colonies of bees into winter quarters last fall. I have three colonies of my own, all Italians, which are all alive. I took a little over $9.00 worth of honey from them. Pa took nearly 3000 lbs. of honey, mostly extracted. He says he can make more money producing extracted at 10 cts. per lb. than comb honey at 16 cts.

DANIEL J. MISHLER, age 14.

I have two sisters and one brother. Polly is the baby. Next summer I will sit out and watch the bees, and sing the song of the little busy bee. I guess I must close, by sending my best respects to little Huber. **SUSANAH MISHLER**, age 9.

Ligonier, Ind., March 2, 1884.

RUNAWAY SWARMS.

Pa bought 6 colonies of bees in October, 1882, and during the season they swarmed 18 times; in May, two swarms came out one week apart, and each of them went to very large oaks, and then we cut the first one down and took them home, and they did very well. We cut the tree containing the other swarm, and put a hive there, and went back to shearing sheep until in the evening. Then we went in the woods to get them, and there were not a dozen bees there. In the fall pa had 18 hives; he put them on the east side of the house, and there are 12 alive now. **GARDNER J. CHASE.**

Chase, Ohio, March 2, 1884.

It seems to me your folks had a great deal of trouble, didn't they, my young friend? I should be inclined to think an oak-tree is worth more than a swarm of bees. But I suppose you did it more for the fun than because you expected to make money by getting the bees down.

THE YOUNG ANTI-PROTECTIONIST.

I thought I would write you a letter about bees. My father has about 15 hives of bees; he lost 3 this winter; he is not giving his bees much attention now, his time being taken up in the study of "Protection," as he intends to stump the State next fall. Friend Root, I tell papa that I am no Protectionist, inasmuch as the duty upon Italian queens adds to their cost to such an extent that it is almost impossible for bee-keepers with limited means to purchase one. **JOS. DE WORTH.**

Bordentown, N. J.

It seems to me, Joseph, it is a little singular to find a boy standing on the opposite side of such great questions from what his father does; but so far as I am posted on the subject, I believe I should take your side of the question. I am in favor of a large amount of freedom, where it does not touch upon any thing positively sinful, and I should be in favor of letting everybody sell whatever he makes or produces, as cheap as he has a mind to, and where he has a mind to. May be if I were capable of taking a full view of the question I should think differently, but I am inclined to doubt it. I am glad to see you developing, even in boyhood, that spirit of manliness which I have talked to you about on another page.

WHY HONEY DOES NOT RUN OUT OF THE CELLS.

We have two hives of bees; one my brother got last summer, and he bought another at a sale this spring, and it died, and then he bought another one. None have swarmed yet, but we expect it soon. We have them in chaff hives. Why is it that honey will not run out of the cells, when you turn the combs upside down? **H. H. BAER**, age 12.

Marshallville, O., June 1, 1884.

My little friend, you have struck on one of the problems. It is a queer kind of attraction called capillary attraction that holds the honey in the cells, and it will also hold clear water in the cells in the same way. It is this kind of attraction that makes water stick to your finger, or even a glass, after you have been drinking. If you turn it upside down, quite a little water will be seen sticking around the sides, which afterward settles to the bottom. Now, if your drinking-cup were small enough you could fill it with water and turn it upside down, and the water would not run out, because the sides are so near each other. Well, the bees with their tongues spread the honey around the walls of the cells as they put it in, and this makes it stick so securely that it takes the centrifugal force of the honey-extractor to overcome this capillary force or attraction, to get the honey out.

A TRUTHFUL STATEMENT OF THE WAY BEE CULTURE OFTEN TURNS OUT.

As papa is a bee-keeper I thought I would write you a few lines. He started to be a keeper of bees in the spring of 1881, with one swarm. The bees did not swarm at all that year, and he bought 8 stands from a neighbor, which increased his apiary to 9 stands. Then he transferred them into Simplicity hives. It was late when he commenced transferring; it was the last of July and the first of August. He caught some swarms, and started in for the winter with 14 stands. But, lo! when spring came, all had perished but two hives, for he had neglected to feed them. Both of the remaining hives swarmed twice, and two swarms came to our apiary from the woods. Papa sent to Mr. E. M. Hayhurst for seven Italian queens, and he introduced six of them successfully. The postmaster at Church Hill was surprised beyond measure to see live bees coming through the mail; and, in fact, it was a nine-days' wonder to the whole neighborhood. **NELLIE BOLES**, age 12.

Church Hill, Miss., March 1, 1884.

Nellie, I am glad to see you give us the facts so impartially. When your papa comes to see this letter, may be he won't like to see his mistakes and delinquencies so truthfully portrayed. No doubt a good many postmasters have been surprised, somewhat as yours was. Now tell your pa to feed his bees up well and strong, and see to it that there is no more starving.

18 LOST OUT OF 39.

I don't like honey very well. I have one brother who likes it well enough to drink it. Pa lost 18 stands; has but 21 left; he kept half of his bees in the cellar, and the other half in a house outdoors. Mrs. Anderson bought two swarms of bees of Mr. Summey a year ago last fall, and last fall she put four stands in the cellar. She took the honey too late, thinking she could feed them through the winter if they hadn't enough; but the poor little fellows didn't like her food, and they all starved. She fed them on syrup and sugar. Pa always makes syrup of the best white sugar to feed his bees; but she thought she would make hers eat sale syrup. Pa fed his bees a great deal of rye flour this spring when he first set them out; he said that it would keep the strong swarms from robbing the weak ones. **ALTA BISBEE.**

Lyle, Minn., May 3, 1884.

Pretty good, my little friend Alta. I guess we shall have to get you little folks to keep up the column of Blasted Hopes for us.

HOW CARL AND HIS PAPA GOT THEIR FIRST SWARM OF BEES.

June 16, 1882, while papa and I were plowing corn, we saw a swarm of bees coming toward us. We threw dirt, and shouted until we got them settled, and then got some hives that papa had made a year or two before, and hived them. Papa can just scrape them off with his hands, and pick them up with his fingers, and not get stung, but I can't. The next winter we had three swarms, but one died during the winter. In the fall of 1883 we had seven swarms, but now have but five. We keep our bees in the milk-room in the barn. Papa is a dairyman. **C. CARL OSBURN**, age 12.

Irvington, Ind., May 12, 1884.

"POLLY COLOGNE" AND "ARISTOTLE."

My papa has 5 swarms of Italian bees. Two swarms were destroyed by the rats during the winter. I wish we had more bees. I like to help tend to them. Bees do not like any one who smokes or chews; but my papa is strictly temperance, and likes bees, so they like him. He has a smoker and nice hives, so he doesn't often get stung. I have a pet kittie named Polly Cologne, and I had a chicken, "Aristotle," but a hawk flew down one day and took it away. My brother Carl and I have a strawberry patch and some raspberry bushes. I am the youngest of the family, and am seven years old. **M. GRACE OSBURN.**

Now, Grace, that was really too bad that a hawk should have the audacity to come down and fly away with Aristotle. By the way, what beautiful handwriting you two children give us! I suppose Carl, who wrote the first letter, furnished the penmanship for both, did he not?

STAYING AWAY FROM SCHOOL TO CATCH QUEENS.

Well, Uncle, as I had to stay at home from school to-day to help catch queens, I thought I would trouble you with another letter, and tell you about puffing the smoke down in the hive, and driving the queen out. She arose and flew as far as I could see her. In about ten minutes she returned to the hive.

Well, I have just got home from DeKalb Co., on a visit to see my brother and sister-in-law, and their little baby. I guess I can brag some too, as well as you about Huber. This baby is a somewhat rosy-posy, double-dimpled fellow. I would pinch him on the chin, and he would open his mouth like a young bird when its mother comes to feed it, and laugh at me. **JOSIE DAVIDSON.**

Pisgah, Ala., May 22, 1884.

Now, Josie, I do not know whether that is just the thing to do, or not. Here in the factory, almost every day some boy or girl wants to stay out of school to work for me; but, no matter how badly I need a boy or girl, and no matter how badly they want to work, I always tell them I can not do it, for I never could feel like asking God to bless our place of business, if it took boys and girls away from school. Don't let any thing stand in the way of your education, little friends. Remember what the good Book says:

> Wisdom is the principal thing: therefore get wisdom; and with all thy getting, get understanding.

SWARMING-TIME.

We started this spring with three stands, a brown hive and two white ones. I was at our grindstone, and heard a low roaring noise. I looked up, and saw the bees coming out in a cloud, and I knew they were swarming. I put on my hat, and went and told pa, and he came home, and fixed the bees in a hive. That was the 9th of May. The next came on the 17th. Pa did not put oil cloth on the frames to confine the bees below, and so they bunched up in one corner of the hive at the top. After a while, when I went into the garden, just as I got before the hive, the bees all came pouring out in a cloud, and I went upstairs and told pa they were running away. He came down, and had considerable trouble getting them back in the hive. He made a cage for the queen, but he didn't catch her, for they saw her disappear through the door of the hive. Pa put a piece of oil cloth on the frames the last time. He said he thought that swarm would be pretty cross, for one bee stung him over the eye, and it swelled shut, and the other eye nearly shut. This morning the swelling commenced going down, and now it has opened enough for him to see pretty well. He has got a hive ready for the next swarm. **HERBERT BOWERS**, age 12.

New Ross, Ind., May 18, 1884.

SWARMING ON SUNDAY.

All the rest of the family had gone to Sabbath-school, and left the baby and me at home. Papa is superintendent of the school. I was to give the alarm of the bees swarming. The signal was to blow an alto band-horn. I sat upstairs writing and reading, and now and then looking out to see if the bees were swarming. At last they came. The signal was given, but unheard at Sabbath-school. So I went to work settling them and looking for papa every minute. After a while they began to settle on a sassafras bush. I went for a sheet; but before I returned it was weighted to the ground. I put the sheet up close, set the hive on it, and fixed it ready for the bees. By this time almost all of the bees had settled. The next thing was to shake off the bees, which was done nicely, and they began to go in. I was proud as I ever was in my life. At last the children and mamma came, but all the bees were in but about a pint, and they were going in. Papa had stayed at church. The bees have gone to work, and seem as well contented as any of the new colonies. **FRANK W. HUNT**, age 13.

Chattanooga, Hamilton Co., Tenn., May 22, 1884.

Friend Frank, I have heard it said that bees take particular pains to swarm on Sunday, in preference to any other day. Of course, that is only a notion; but some way it seems sometimes as if the bees had a fondness for swarming Sundays, and that, too, just about church time.

OUR HOMES.

And God said, Let us make man after our image, after our likeness.—GEN. 1: 26.

I HAVE before spoken of a little book recently published, entitled "The Manliness of Christ." The book has had a very extensive sale all over the world, and has called forth much attention and thought. I presume a good many have read it, simply from the queer title coupling the word "manliness" with that of Christ our Savior. It gave us a new view of the beautiful character of the Savior, because the reader's attention was directed to Jesus from a new standpoint. It was taking a glimpse of his life from another and unusual direction. Who ever thought of Christ being *manly?* Of course, we know he was manly, and, come to think of it, really the most perfect type of true manhood this world ever saw, without question; but yet, it strikes one as singular, if not wanting in reverence, to speak in that way. And yet, Jesus was a man, and the thought is strikingly emphasized all through the gospels. He himself seemed to feel a sort of pleasure in styling himself the Son of man; in fact, he uses this term far more than the term the Son of God, if, indeed, he ever used the latter at all.

Now, since we have had so much to say about this word manliness, let us examine it a little. What is it to be manly? What did God create us for, and what is the highest end of our being? How often we hear the term, "Be a man." Sometimes we hear the additional injunction put to it, "and don't cry." What does the word *man* mean there? I often hear Mrs. Root speak to Huber in tones of endearment, "He is mamma's little man." When he falls and bumps his nose, papa says, as he lifts him up with his poor little face twisted in anguish, all ready to burst into tears, "There, be a man, and do not cry." And even one-year-old Huber catches the inspiration from that single word man, and braces up and tries to laugh. What sort of definition has he in his little mind of the word man? What sort of a definition have his mamma and papa in their minds? and, in fact, what does all the world mean when they use the term man as I have used it? Somebody is under discussion, or some public act is witnessed, and some one breaks forth, "He is a *man.*"

At the noon services a few days ago I spoke about the quality of manliness, and asked what it meant. One suggested that it means to be brave; another, true; another, self-sacrificing; and another, wise. Mr. Gray said that it means mature; and in a little while we had a pretty good definition of what the world expects of a man. Is it not true, dear friends, that, when summed up, it means, also, God-like, or in his own image, as in our opening text? It also means having a love for one's fellow-men. Christ was manly because he was beyond all men in this quality of having a love for the human race; in fact, it was because God so loved the world that he sent this only begotton Son of his into the world; and when Jesus came he began to look at once out upon the world with that wonderful love and devotion. No mother ever loved or yearned over an only child as Christ loved humanity. He did not single out people here and there, but his love was great and broad and general. He had no thought of self, and no anxiety for self. A mother's love may picture faintly to us what his love was for humanity, for she would give her life for her child in a minute. He loved humanity because the image of God the Father was shadowed forth in them—faintly, perhaps, but it was there still; and it is this image of God that we term manliness.

A few Sabbaths ago our pastor dwelt on the word righteousness, and showed plainly that the definition of the word is not simply right doing, but that it embodied also the promise of futurity and immortality. "Blessed are they which do hunger and thirst after righteousness, for they shall be filled." Is it not plain in this little text, that the word righteousness has a broader meaning than simply not doing anything wrong? Now, is it not so with the word manliness? Does not manliness include also godliness, and the thought of immortality? We speak of humanity, especially the young over the land, and express the hope that they may not be lost by intemperance and crime. When one forsakes all thought of being manly, we speak of him as lost. Lost how? When a young man dies by sickness he is lost, is he not? at least we never hear of him more. Why do we not say he is lost, like the one who has gone to the penitentiary? Because, dear friends, we all of us feel instinctively that there are things a thousand times worse that may happen to a young man than simply death. Those who have had experience in great trials and afflictions know that it is almost a joyous thing to have a friend die the death of a Christian, compared with being obliged to see him go down in the path of crime and wrong. To see a friend die the death of the righteous is not a hard thing, especially where his dying words are full of faith and hope in Christ. To see one go down gradually, and finally be lost in sin, is one of the hardest trials this world can give. Why? Because God created man in his own image and likeness, and we expected the man to show God's likeness. We expect him to be manlike. We expect him to be steady and true, not easily upset or demoralized, even though things go awry; in fact, we measure man a good deal by his ability to control himself, and the thought includes the ability to control others. Did you ever see the young schoolmaster (or schoolmistress, if you choose) when he takes his first school? How much of this quality of manliness has he? Perhaps you knew him intimately during his boyhood; and when somebody startled you with the announcement that he is to teach school this term, your first thought was, "Why, how ridiculous! That fellow (or that girl) has not sense enough to teach a bat." If you have the quality of manliness yourself, however, you do not say it aloud, but keep it to yourself, and may afterward feel even ashamed of the uncharitable thoughts; for, dear friends, we ought to feel ashamed of them, all of us. Time passes, and, to your great surprise, that boy or girl does tiptop. This quality of manliness has developed, and come out in an unexpected way. The fellow actually manages well, and, in difficult cases, he exhibits a wisdom you did not expect. You had been thinking of him as a boy; but, in truth, he is a man. He has gotten over his boyish pranks and tricks, and deports himself as their master, which he truly is. He knows what the world expects of him. He knows what the pupils expect of him, and this expectation has braced him up and made him all at once, as it were, a man.

Several years ago, in making some experiments in building up colonies by frames of brood with no old bees at all, I discovered the young bees would go off in the field to gather pollen at a much earlier age than they would ordinarily. The poor little chaps were obliged, by force of circumstances, to take up mature duties. In the same way these young school-teachers or clerks or business men in different departments are obliged to develop their talents of manliness, and it does them good. Only last week the printers were a little doubtful about my being able to get out on time the number containing this article, and at the same time keep the large printing-press running on the A B C book day and night. I suggested that one of our bright young boys be set to making up the forms for the journal, at which some of the older ones smiled. I replied, "The quickest way in the world to teach a boy to swim, many times, is to throw him right into deep water." In our business I have done so a good many times, when I was pretty sure I was not mistaken in my estimate of the young man; and although I sometimes crowd these young people a little, I think that more than one of them have had reasons to feel grateful to me for it; for I demonstrated to themselves as well as to their friends, that they possessed this latent power or quality of manliness, which we all have in a greater or less degree.

Paul had a vivid idea of what it is to be manly. He said it is manly to suffer long and be kind. He said it is manly to put down all feelings of envy. He also said, that the true man would not be puffed up, even though God blessed and prospered him. He said that the spirit of manliness would make one behave himself in a seemly way, and that such a man would not be always seeking his own, and that one who has a true manly spirit would not be easily provoked, neither would he be constantly thinking evil. One who is manly would never rejoice to hear of iniquity, but would always rejoice in the truth. The remembrance that we are men should cause us to bear patiently with people in general, and to patiently and constantly hope for better things in our fellow-men, and this should help us to endure not only for a while, but through time and eternity, whenever it seems probable that endurance may work out good, or develop the quality needed.

Within the past few months I have been greatly helped against temptations by keeping in mind that God and my fellow-men expect me to deport myself in a manly way, in a way in which one should who is created after God's likeness. Why, it almost makes me tremble to use such words; yet, dear friends, they are words of Holy Writ. I do not know your surroundings or circumstances, and I cannot tell what there is there to brace *you* up. I will illustrate it by giving you part of my own:

A little time ago I told you about the schoolmaster. Well, I am a schoolmaster, and a young one too. The school is a pretty good-sized one. Some of the pupils have a pleasant sort of way of calling me "boss." Well, I suppose they are right; for if I am not boss I ought to be.

If any one in this world needs to be manly it is the boss. A good deal is expected of the boss. He ought, by his looks, to let the boys and girls see that he is boss, and therefore capable of managing. Not by any thing "put on," dear friends, but in a true spirit of manliness, just as I put it above in my quotations from Paul. He ought to be above any thing mean or underhanded. He ought to be transparent and truthful as a little child, and at the same time as brave as a general. He ought to forget self and selfish interests in looking after the welfare of others; and the thought should be constantly before him day and night, that he must be manly. By no means should any bad temper ever be allowed to exhibit itself. Neither should he ever forget himself so far as to argue or dispute with anybody. Nothing approaching the character of a threat should ever pass his lips. He should possess the true dignity of manliness. That word dignity often prompts me to be careful. Perhaps, dear reader, if you are not a boss you are the father of a family. What do those little boys and girls expect of you? Their eyes are not always upon you, it is true; but sometimes they are when you least expect it; but suppose they are not, can you be a true man, and be guilty of any thing under any circumstances that would startle you if *they* knew of it? It may be you are away from home where nobody knows you. May be it is also in the darkness of the night, and it may be suggested to you that they will never know or hear of it; but if you are a man, what odds should that make? A man should be a man after dark as well as at noontime. He should be a man away from home as well as in the family circle. He should ever and under all circumstances deport himself in a way that not only his own children, but all the world would call a manly way. A *man* and a *woman* now call me father. They look up to me and feel an anxiety that I may be called and thought of as *a man*. I know how they think and how they feel, and I know that their instincts are God-given; for what holier relation is there in this world than the relation between parent and child? Now, I have been greatly helped, as I have told you of late, in keeping this thought in mind; and not only is it my duty to deport myself in a manly way, but it is my duty to cherish no thoughts or feelings that I would be ashamed of before these two who are now capable of mature judgment in this matter of which we have been speaking.

TOBACCO COLUMN.

A 58-YEAR-OLD FRIEND TAKES THE PLEDGE ALSO.

I HAVE used tobacco—both chewed and smoked it. I have quit using it; and if you will send me a smoker I will give you my word of honor that I will never use it again. I am now 58 years old. **SAMUEL DETWILER.**

Kenton, Hardin Co., O., April 17, 1884.

AND STILL ANOTHER.

Well, friend Root, as I have quit smoking tobacco, and don't want to begin again, I suppose you will send me one of your 50-cent smokers, for I have some hybrids that are cross—too cross to be endurable. **FRANK CARSON.**

Loganville, Wis., March 29, 1884.

Friend C., we send you the smoker, although you have not sent us the customary promise. We suppose, of course, you will send us the money if you ever touch any more tobacco. That is the agreement, is it not?

I thought I would not say any thing to you about quitting the use of tobacco until I saw whether I could or not. I claim that I have reformed, and have not touched tobacco since the 15th of Dec., 1883. Now if you will send me one of your smokers, I agree that, if ever I use tobacco in any form, I will pay you $5.00 for the smoker. **B. G. MCPHERSON.**

Mt. Sterling, Ill., March 17, 1884.

Why, friend M., if you go to putting the penalty so high, I am afraid I might be in danger of getting rich on people's infirmities, and you know I should never want to do that. I trust and pray that you may never break off at all, and then there won't be any five dollars about it.

I have quit using tobacco. I have used it for quite a long time; and if you want to send me a smoker as a reminder, I will be thankful indeed; and if I use it again, I will send you the 75 cts.

J. H. DONALDSON.

Nickleville, Ven. Co., Pa., March 17, 1884.

I quit using tobacco about a month and a half ago. Please send me a smoker; if I use it again, I will pay you for it. **H. C. MASON.**

Brown City, Sanilac Co., Mich., March 18, 1884.

I have understood that you agree to give to any bee-raiser who has abandoned the use of tobacco, a bee-smoker. I have been an inveterate smoker for some years, but abandoned it on the 27th day of February last, since which time I have not touched it, and have a full determination never to resume its use. I have a few colonies of bees in a thrifty condition that promise well. Have had no swarms yet this season, but am looking for some every day.

C. W. AMMERMAN.

Orangeville, Pa., June 4, 1884.

Friend A., we send you the smoker, but would like the usual promise to pay for it whenever you touch tobacco again in any form. We suppose that is implied, however.

Dear Brother:—God's ways are always best, and I always feel best to walk in those ways. You know our last talk concerning the apathy on temperance which really induced me to spend the Sabbath at Salineville, rather than Medina. The result was a large and attentive audience, a good collection, and several conversions from wrong to right on the tobacco question. Next morning I visited several store-keepers who sold tobacco, all of whom acknowledged it to be wrong, and one promised me that he would quit the business of selling it entirely, as his wife promised to quit using it. To God be all the praise.

NOTICE.

On receipt of 5 cents in stamps for mailing it, one copy of "A Dose of Truth" will be sent free to each person who quits the use of tobacco, and publicly promises to pay for the said book if he ever again indulges in the use of that or any other intoxicant.

THE SOUL AND BODY BOTH CURED BY QUITTING THE USE OF TOBACCO.

A carpenter of Johnstown, Pa., quit work on account of ill health. T. F. Bracken met him on his return from the doctor's. "Now," said he, "if I were in your place I would quit tobacco, and let medicine alone, and then I should soon be well." He at once tried the temperance doctor's prescription, and was well in two weeks. Let others go and do likewise. **T. F. BRACKEN.**

New Florence, Pa., March 17, 1884.

Friend B., as we send the book from here, together with the smoker, we shall hardly need to accept your kind offer.

Dear Sir:—For your Tobacco Column, perhaps the experience and advice of an old man may do some good. I am now 86 years old. At about 16 I commenced chewing tobacco: finally very immoderately. I suffered so much from heart-burn that at about 33 I gave up my box; have chewed none since. I then took up the pipe, and became an inveterate smoker—was always ashamed of it; would not smoke in my own house nor in the presence of ladies. I was ashamed to have my clothes scented with tobacco, and I thought it was a sin to spend money in this way; so at about 70 I *quit at once*. I never, never smoked since. In a short time I lost all desire for it. I was a slave to tocacco about 70 years, but now am a free man. If any man finds he is a slave, let him do as I did—*quit*.

EDWIN STANLEY.

Wyoming, N. Y., May 28, 1884.

When I sent my order, a very painful and distressing disease prostrated my nervous system for (I am nearly 62 years old, and have used tobacco for over 40 years) I had not tasted of any or had any in my mouth since the 15th of April, and I hope, by the grace of God, to never use the filthy weed any more. I do not ask a smoker from you for an act which benefits me and not you. I should not ask a reward for doing a righteous act.

W. H. CORNELIUS.

Daleville, Ind., June 2, 1884.

A GOOD EXAMPLE IS ALWAYS CONTAGIOUS.

Some of my bee-keeping neighbors think my smoker is the nicest thing they ever saw, and they all seem to want one, so I will try to see what I can do to sell a few. Please give directions in each one. The one you sent came all right in good order. I get along well without the filthy tobacco, and you have my thanks for the advice you give in the Tobacco Column. You may send me one of your books on tobacco, if you will. **A. B. HOWER.**

Perrysburg, Ind., May 2, 1884.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, JUNE 15, 1884.

What is man, that thou art mindful of him? and the son of man, that thou visitest him? For thou hast made him a little lower than the angels, and hast crowned him with glory and honor.—PSALM 8 : 4, 5.

OWING to more troubles in regard to window-glass, we have been compelled to make an advance; and until further notice, the prices will be 50 cts. higher that the prices quoted in our price list.

IN the advertisement of W. H. Proctor, on page 364 of our last number, the words "Two-story nuclei" should read "Two *strong* nuclei." Friend P. seems thankful that a "basement" was not included in his offer.

THE DELAY ON THIS ISSUE.

THIS has been caused by the need of running day and night to finish an edition of almost 6000 copies of the A B C book. We are trying hard to get these ready to send out by July 4th.

DOLLAR QUEENS FOR A DOLLAR.

WE can now furnish any quantity of untested queens, reared in our own apiaries, at July prices. Also any thing in the line of bees or queens at July prices, by return mail or express.

WE are in receipt of a sample hive from friend J. W. Gofft, of Collamer, N. Y., having reversible frames made on the plan suggested by friend Pond in our last number. I have carefully examined the hive, but it seems to me the Hetherington reversible frame is much the simpler of the two.

THE LITTLE DETECTIVE SCALE WITH A DOUBLE BEAM.

WE are now prepared to furnish the Little Detective as above, at an additional expense of 50 cts. over the common kind. This enables us to take off the tare as with the Favorite scale, and will doubtless prove just what is wanted by a good many.

NO MORE SEEDS OR QUEENS WANTED.

WE are fully supplied with spider plant and Simpson seeds, and so do not send us any more, friends. We are also fully supplied with all kinds of queens. Do not send any more until you receive further orders. Our own apiaries will now probably furnish all we shall want to send out for the remainder of the season.

OLD TYPE FOR SALE.

WE have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any late number of GLEANINGS previous to May 15. Also 17 lbs. of italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the, and, that, ing, tion*, etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb.

OUR OWN APIARY.

IT now comprises nearly 400 colonies; and by the way the boys are dividing to prevent swarming, we shall soon have it up to 500. White clover is very bountiful, and frames of fdn. are being utilized at a tremendous rate; and just as we go to press, a telegram announces that a shipment of imported queens is started from New York.

REDUCTION IN PRICES ON QUEENS, BEES, AND BROOD, IN QUANTITIES.

Until further notice we will (besides giving July prices) give 5 per cent off for orders of $10.00; 15 per cent for any order amounting to $25.00 and over, and one-fourth off on $50.00 and over. And for a single order amounting to $100.00 or more, one-third off. This offer is made on account of a very large stock on hand, and of every thing in the bee line. We guarantee safe delivery at your nearest express office as usual.

GIVING THE SIZE OF YOUR FRAME.

TROUBLES are coming again from those ordering extractors, and not giving definitely the size of the frame they use. Sometimes we have to write twice to make a customer tell the size of his frame, so we dare undertake to work by it. In the first place, give the size of your frame, outside dimensions; then give the length of the top-bar, and we have got all we want to know. If you simply say 12 x 12, how do we know this includes the projections on the top-bar or not? But if you say 12 x 12, and top-bar 13½ inches, then you have it without any possibility of mistake.

LATEST FROM THE SEAT OF "WAR" (?)

WE are prepared to fill any order for foundation by return mail, express, or freight, even if you want a hundred pounds of odd size. We are also prepared to ship bees and queens in the same way, with the exception of imported queens, which have not yet arrived from Italy. Seventy-five are now on the way. On orders for hives, frames, etc., we are a little behind, although we expect to be up abreast in a week or ten days. Simplicity sections are stacked up ready to go by first train; but odd sizes will have to be delayed a little yet. The trade of the season has been by far the heaviest we have ever known, and some of the friends have been used pretty badly; but now that we have got almost to a breathing-spell, we would like to have every thing settled up satisfactorily that is not already so.

BALLOONS FOR THE 10-CENT COUNTER.

YES, and good ones too, that will go up like a kite, and they do not require any alcohol, turpentine, or any thing dangerous for children. All you have to do is to slip it out of its envelope, swing it in the air to get it filled, and then just light the combustible with a match; then if the air is very still it will go away up high, and come down, and you can put in some more combustible and send it up again a good many times. They usually sell for 25 cents, I believe; but as I bought a great big lot, I can sell them for a dime; safely packed so as to go by mail for 7 cents more for postage and packing. In my early childhood, nothing ever lifted me right off my feet like a fire-balloon; but it used to take lots of newspapers, besides the turpentine and alcohol, and sometimes even then they got on fire and burned up. I think almost any child will succeed with these. If they are very young, perhaps mamma had better manage it, and then you can hurrah for the 4th of July while it is sailing aloft, and, at the same time, if you choose, you may remember that Uncle Amos thought of you when he bought them. The balloons are six feet in circumference. The extra combustibles are worth 3 cents each, or 25 cents for ten, postpaid by mail.

COMB FDN. WITH A THIN WOODRN BASE.

WE have received from E. B. Wood, whose advertisement has sppeared already in our colums, samples of what comes pretty near being artificial honey-comb; in fact, it is honey-comb with cells almost a quarter of an inch deep. The base is thin wood. Our friends will remember that we had this idea advanced several years ago, and it succeeded so far that it is described in one edition of our A B C book. Friend Weed has made important advances, and I see at present but two obstacles in the way of quite a revolution in comb foundation. One is, that he has not yet submitted to us sheets of fdn. large enough for a full-sized frame, but he promises to do so in a few days. The other is in regard to the amount of wax used. He thinks he can use even less than we do with our usual fdn. While I am open to conviction, I am a little doubtful in regard to the matter. The small samples are certainly beautiful, although the walls are considerably thicker than the natural comb.

REVERSIBLE FRAMES.

A SWARM of bees is now at work in a Hetherington hive, and so far I like it so well that I think we shall make some arrangement, before another season, to furnish frames on this or a similar plan, to be used in any Simplicity or Langstroth hive. When the bees first began pulling out the foundation, honey was coming very moderately, and they therefore put the honey along the top-bar, drawing out the cells, and fastening the comb securely at the top and ends, while at the lower part of the frame they had cut the fdn. away in some places, along the tin bar and the wires. At this stage of proceeding I reversed all the combs, expecting to see them take the honey from the bottom, and raise it up. As honey began to come a little faster, they did not remove that already stored, but patched up and filled out where they had got the fdn. away from the wires, and now we have whole handsome combs, about the nicest I ever saw. Prof. Cook says, in this number, we should be careful about drawing conclusions; and if it were not for being hasty I do not know but I should say I want all of our combs reversible. Aside from the reversible feature, these Quinby-Vandeusen-Hetherington frames (I can not afford to give them this long name every time, but try it here just this once) are extremely handy for shipping bees, which is, as you know, one principal feature of the business of our apiary. Before deciding, however, we are going to try more hives of this description, and give them a good test for a whole year or more. Devices are still coming in, in great numbers, for reversing frames, but I consider them all complicated, compared with the above arrangement. We can furnish you a sample of this reversible frame by mail for 10 cts., if you want to see one. This will also include a small section of rabbet that the frames rest on.

DON'T FAIL to send for circular of bees and queens, to CHAS. D. DUVALL, Spencerville, Montgomery Co., Md. 8tfd

LOOKOUT ✢ MOUNTAIN

BEE-RANCH AND POULTRY-YARDS.

Queens reared from Imported mothers. Bees by the pound or colony; also P. Rock and White Leghorn Fowls. Fine breeding Cockerels a specialty. A limited number of war relics, such as bullets, bombshells, bayonets, etc. Canes, swords, etc. Would exchange goods for a good field-glass. Satisfaction guaranteed. Write for prices to

J. H. THORNBURG,
12-15-bd. **CHATTANOOGA, TENN.**

Given Comb Foundation a Specialty.

Also Apiarian Supplies. Circulars, and samples free.
9-11d G. H. KNICKERBOCKER, Pine Plains, N. Y.

COMB FOUNDATION A SPECIALTY.

Manufactured on Vandervort Mill, price per lb., 55 cts. for brood-comb fdn., cut to any size wanted. Wax made up for 15 cts. per lb., or two-fifths of wax. Sample free. **C. H. McFADDIN,**
12-13d. **Moniteau, Moniteau Co., Mo.**

FOUNDATION

Made from pure refined wax at 50 cts. for brood, and 55 cts. per lb. for light. Other supplies kept on hand. No circular. A. F. STAUFFER,
12. Sterling, Whiteside Co., Ill.

Italian Dollar Queens.

Reared under the swarming impulse from imported mothers, $1.00 each; these queens are reared in a perfectly natural way, and, in my opinion, are superior to queens reared artificially. Safe arrival and satisfaction guaranteed. 12-tfdb.

S. WHAN,
Raymilton, - Venango Co., - Pa.

ITALIAN QUEENS $1.00 each; $10 per dozen by return mail. Three-frame nuclei $4.00 each. These are strong, and will build up rapidly.
W. M. PROCTOR,
12d. **Fairhaven, Vt.**

BEES AND FOUNDATION-MOLDS CHEAPER.

25 PER CENT discount in June on every thing but $1 queens. See circulars and May "ad."
OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.
12-tfdb.

OWING to so many calls from my old customers for more queens from my choice strains of Italians, I have decided to rear queens again this season.

Untested queens, in June, $1.25; after June, $1.00.
Warranted " " " $1.50; " " $1.25.

A discount of 8⅓ per cent will be given on all orders for 6 queens to 12; 12 or more, 10 per cent discount. Safe arrivals and entire satisfaction guaranteed. J. P. MOORE,
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RAISED-COVER HONEY-PAILS.

WE HAVE JUST SECURED

Some better rates than any thing we have ever had before on raised-cover honey-pails in nests. Nest A is composed of five pails—1 pint, 1, 2, 3, and 4 qts. This nest, at regular prices, would be 5, 8, 10, 15, and 20 cts., making altogether 58 cts.; but we can sell the whole nest for 40 cts.; 10 nests $3.75, and 100 nests for only $35.00.

Nest B contains 8 sizes — 1, 1½, 3, 4, 6, 8, 10, and 12 quarts. The prices of these singly are 5, 8, 10, 15, 20, 25, 35, and 50 cts., making $1.68, but we can sell them in nests, single nest for $1.50; 10 nests, $14.00; 100 nests, $135.00.

A. I. ROOT, - MEDINA, OHIO.

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any late number of GLEANINGS previous to May 15. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the*, *and*, *that*, *ing*, *tion*, etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb. A. I. ROOT, Medina, Ohio.

Italian Queens and Bees!

Warranted queens, each $1.00; 6 for $5.00; Tested, $2.00; special prices on large orders. *Orders filled promptly*. If you want bees for *business*, give me a trial order. Safe arrival and satisfaction guaranteed. Send for circular, giving full particulars.

CHAS. D. DUVALL,
14tfd. Spencerville, Mont. Co., Md.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2.00 per year.

Those whose names appear below agree to furnish Italian queens for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A.I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 13tf
*Paul L. Viallon, Bayou Goula, La, 13tfd
*S. F. Newman, Norwalk, Huron Co., O. 13tfd
*Wm. Ballantine, Sago, Musk. Co., O. 13tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 9tfd
*Thos. H. Trice, New Providence, Mont. Co., Tenn. 5-15
*D. A. McCord, Oxford, Butler Co., Ohio. 5-15
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3
*S. G. Wood, Birmingham, Jeff. Co., Ala. 13tfd
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*J. W. Keeran, 106 Washington St., Bloomington, McLean Co., Ill. 7-17
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5
*S. C. Perry, Portland, Ionia Co., Mich. 9tfd
C. Weeks, Clifton, Wayne Co., Tenn. 9-19
Will True, Chadwell, Clatsop Co., Oregon. 9-7
W. H. Proctor, Fair Haven, Rutland Co., Vt. 9-17
Jas. Husband & Son, Cairngorm, Ont., Can., 11-13
Theo. G. M'Gaw, Monmouth, Warren Co., Ill. 11-21
*D. M. Weybright, New Paris, Elk. Co., Ind. 11tfd
*B. W. Harrington, St. Catherines, Ont., Can. 13-23.
Jas. O. Tracey, New Hamburg, Ont., Can. 13tfd.
F. S. McClelland, New Brighton, Beaver Co., Pa. 13-15
S. P. Roddy, Mechanicstown, Md. 13-17d
*F. L, Wright, Plainfield, Livingston Co., Mich. 13-15d

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 7tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
C. P. Bish, Petrolia, Butler Co., Pa. 9-17

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

Fifteen black and hybrid queens mailed in July as I can spare them; black 20c., hybrid 30c. W. H. UPTON, Loveland, Iowa. 13

I shall have about 100 black queens to spare after July. Price 20c. F. BOOMHOWER, Gallupville, N. Y. 13

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

HONEY COLUMN.

CITY MARKETS.

CLEVELAND.—*Honey.*—Honey has been quiet the past two weeks, none of the new crop, for which dealers are waiting, having been sent in. Values are unchanged, on account of absence of transactions. Perhaps it will not be amiss at this time to remind our friends of one of the peculiarities of our market, which is this: The greatest activity in the honey-trade with us is during August and September.
A. C. KENDEL,
June 25, 1884. 115 Ontario St., Cleveland, O.

KANSAS CITY.—*Honey.*—Nothing doing now in comb honey, except in a very small way, and will not likely be until the new crop comes in. I quote choice white, nominal at 14½@15½. Dark and irregular, no sale at all. *Extracted*, in fair request at 7@8½c. Some new Southern honey (extracted) arriving. *Beeswax* nominal, 30@35c.
JEROME TWICHELL,
June 17, 1884. 514 Walnut St., Kansas City, Mo.

MILWAUKEE.—*Honey.*—This market is fairly supplied with honey, and the demand is very moderate. Can quote white clover, 2-lb. sec., 15c; 2-lb. sec., 13@14c. Dark or broken, 10@12½c. White extracted in cans, 9@10c. Dark, in pails or kegs, 8½@9c.

Beeswax.—Choice wax, 35c. Dark and inferior, 25@28c.
A. V. BISHOP,
June 12, 1884. 142 West Water Street.

CHICAGO.—*Honey.*—The new crop is appearing on the market, and brings 15 to 18c per lb. in 1 and 2 lb. sections. There is very little if any old comb honey here. The writer has not had any old comb honey to offer for several days. Extracted is without life; the demand has all but ceased for it; and to quote or offer at lower prices is simply demoralizing the trade.

Beeswax is not plentiful, but the demand is light at 30 to 37c for fair to prime.
R. A. BURNETT,
June 25, 1884. 161 South Water St.

NEW YORK.—*Honey.*—The season is actually closed, and sales of comb honey are few and small. There is a good demand for extracted honey; new Southern is coming in freely, and sells readily at from 80 to 90c per gallon, according to quality. There is no extracted clover or basswood in our market, but quite a demand for same.

Beeswax.—New Southern beeswax of superior quality, bright yellow, is also arriving freely, and sells at from 34@37c per lb.
THURBER, WHYLAND & CO.,
June 25, 1884. Reade & Hudson Streets, N. Y.

ST. LOUIS.—*Honey.*—The new crop of extracted honey is coming forward, and there is but little demand. In barrels it is worth 6½ to 7c; in cans, 9c retail. No demand for comb honey, fruit being preferred during warm weather. Quote from 13 to 16c retail, when a sale can be made; white clover, more.

Beeswax is scarce, and bought on arrival at 36c for choice.
W. T. ANDERSON & CO.,
June 27, 1884. 104 N. Third Street.

DETROIT.—*Honey.*—The honey market is still without change, there being no demand. Good honey is nominal at 17@19c.

Beeswax, 33@35c.
A. B. WEED,
June 27, 1884. Detroit, Mich.

NEW YORK.—*Honey.*—Sales of comb honey are slow, and we don't apprehend any further change until the new crop arrives. We quote as follows:

Fancy white, in 2-lb. sections	13 @14
Fair to good white, in 2-lb. sections	11 @13
Dark grades, in 2-lb. sections	10 @12
No 1-lbs. in our market	
Extracted, best white-clover	8 @ 9
Extracted, dark grades	7½@ 8

Beeswax.—Prime yellow, 34@35c.
McCAUL & HILDRETH.
June 27, 1884. Cor. Hudson & Duane Sts.

FOR SALE.—Two barrels white-clover honey. Crop of 1884. Delivered on board cars at Ada. Eight cents per lb. by barrel, or 50-lb. cans.
J. B. MURRAY, Ada, Ohio.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

PERRY'S PRICE LIST
Of Improved Italian BEES and QUEENS.

	May	June	July-Oct.
Tested queens	$2 50	$2 00	$1 65
Untested queens		1 00	90
Hybrid queens	1 00	50	40
Bees per pound	2 00	1 20	90
Bees in the brood, per 1000	45	25	18

Send for Circular. **S. C. PERRY,**
8-11tfd PORTLAND, IONIA CO., MICH.

EARLY BEES.
BEES OF ALL KINDS AT PRICES TO SUIT PURCHASERS, AT ALL SEASONS OF THE YEAR.
After July 1st, almost given away.
A. W. CHENEY, KANAWHA FALLS, W. VA. 5tfd

STEAM BEE-HIVE FACTORY
OF THE WEST.
Hives and sections of all kinds. Italian Bees, Colony or nuclei; Comb Foundation, Smokers, Extractors. Best and cheapest Saw-Mandrel made; Babbitt boxes all complete, 20 inches long, $6.00. All Supplies very low for cash. E. Y. PERKINS,
3-13d Jefferson, Greene Co., Iowa.

PURE ITALIAN QUEENS.
Bred in "Sweet City" Apiary. Bees by the pound, and nuclei of any size. Write for circular.
7-13d G. W. DEMAREE, Christiansburg, Ky.

TESTED QUEENS, $2.00. Untested, $1.00. 4-frame nuclei, $3.50 and $4.50. Mississippi wax-extractor, $3.00. OSCAR F. BLEDSOE, Grenada, Miss. 3tfd

Excelsior Poultry Yards
WEST MONTEREY, CLARION CO., PA.
Illustrated Circular of Fine Thoroughbred Poultry, Bees, etc., sent free. Eggs, $1.50 per 13; $2.50 per 26.
9-13d J. T. FLETCHER.

POSITION WANTED
By a young man with some experience, in shop and apiary. **WM. WITHROW,**
13. **Paint Valley, Holmes Co., O.**

NOW IS THE TIME
To Italianize, and why not buy your queens direct from the Breeder? 25 cts. saved is 25 cts. made. If you wish to purchase untested Italian queens, reared in full colonies from imported mothers, the price will be only 75 cts. per queen, or $4.25 for 6, and $8.00 for 12. Address
W. S. CAUTHEN,
PLEASANT HILL, - - - S. C.

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Price 50 cents; Postage paid. Specimen pages free. Send for our catalogue of books for Wood-workers.
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REVERSIBLE-FRAME HIVES,
—AND—
WHITE BASSWOOD SECTIONS.
SEND FOR CIRCULAR AND PRICES.
5-7-9d O. J. HETHERINGTON, East Saginaw, Mich.

GLEANINGS
IN
BEE CULTURE.
DEVOTED TO BEES, HONEY & HOME INTERESTS
F.A. Whiting

Vol. XII. **JULY 1, 1884.** **No. 13.**

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CRUELTY TO ANIMALS.

PROF. COOK GIVES US SOME GOOD SUGGESTIONS.

DEAR FRIEND:— Does our good friend Doolittle suppose we dissect insects alive? We believe truth is golden, and that its study yields the richest and sweetest fruit, so my classes each year dissect 70 or 80 cats, and many hundreds of insects. In this way they learn important truths about themselves and about the incomparable works of God. But, friend Doolittle, all these animals are quickly and painlessly killed before dissection commences. We believe in the closest study of *all* nature; but we do not believe in causing suffering in the least of God's creatures.

> He prayeth best who loveth best
> All things, both great and small;
> For the dear Lord who loveth us,
> He made and loveth all.

Tell Mr. D. that the subjects of the medical colleges are cadavers. A. J. COOK.

Lansing, Mich., June 25, 1884.

Now, friend Cook, we have got you right on the subject that we want you on. You say these animals are quickly and painlessly killed. Tell us how to do it. Especially how shall we dispose of cats and kittens when their numbers become inconveniently large? In enforcing the dog laws in different States, they sometimes, I have been told, kill them with chloroform. Now, I would willingly go to the expense of having some chloroform in the house, for an example before the children, and to let them know that we don't mind a little expense or a little time, to avoid giving pain to these dumb friends of ours. Even this matter of killing potato-bugs, grasshoppers, toads (if they are to be killed), rats and mice, that is, when they are caught alive, as they are in some traps, flies that invade our kitchens, get on the windows, and every thing in the way of animal life that does us harm, can we not, when we kill them, instill *wholesome* lessons rather than to harden children by scenes of cruelty in their early years?

NOTES FROM THE BANNER APIARY.

NO. 56.

HAVE THINGS READY IN TIME.

OH! I tell you, these are busy hours at the "Banner Apiary." First my brother injured his hand in controlling a frightened horse, and could do no work for two weeks; then Mrs. H. was seriously ill two weeks, and I had to drop *every thing* and care for her; and then, to crown all, the honey-season dropped down upon us two weeks earlier than usual; and if *ever* I had to put my wits to work to save a honey-crop that I was *not quite ready for*, it is now. We have to work until we dare work no harder. I feel now as though I should commence, as soon as *this* season is over, to get ready for *another season*. It's fun to care for an apiary when every thing is in readiness; but, once let the bees get ahead of you—well, you will not forget it.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., June 19, 1884.

Well, friend W. Z. H., you are brief this time, certainly; but as the report is a good one, especially the concluding sentence, perhaps it is just as well; and, to make it more pointed, we will stop right where we are.

SOMETHING MORE ABOUT HONEY-DEW.

FRIEND ROOT:—I noticed an article in GLEANINGS for June 15, from E. R. Root, about honey-dew. I have had a little experience in that line this season, which may be of interest to your readers. About the 8th or 9th of this month I went to the pasture after the cows, when, near the woods, I heard a tremendous roaring of bees. Thinking a swarm was passing over I looked in every direction, but could see no bees. As I got nearer the woods, the sound seemed to increase in volume. Just in the edge of the woods I saw a young hickory-tree in blossom, and, thinking the bees might be working on that, I went up to the tree, when I found the leaves completely covered with what is known as honey-dew. The tree was fairly alive with bumble-bees, honey-bees, yellow-jackets, wasps, hornets, and flies; the leaves were so covered with the honey-dew they had the appearance of being varnished.

Looking up in the top of the tree I saw myriads of small insects which I took to be the aphides, or plant-lice; but on looking closer I discovered they were small striped bugs, which seemed to be gathering honey-dew with the rest. After looking around, and finding the honey-dew on oak, maple, elm, and beech trees, I went on over to friend Phelps', taking some of the leaves with me. I found him at home, and together we went back to the woods to see if we could discover the source of the honey-dew. After looking at the trees some time we about concluded that it was a natural secretion of honey in the leaves of the trees. While we were talking, and watching the bees, we noticed a bee running along the branches, stopping from time to time to gather something. Upon pulling down the limbs, and looking close, we discovered they were literally covered with the scaly aphis, or bark-louse. Upon close inspection we discovered a small drop of a clear fluid exuding from the backs of the lice. This was what the bees were gathering on the branches, and it was falling all the while in a fine spray, it being visible on our coats when we came out in the sun. Now, this scaly aphis assumes the color of the bark of whatever kind of tree they are working on, and, being quite small, it requires close inspection to see them. I think we would not have seen them but for the bees working on the branches. Now, may not this in a measure account for some of those mysterious falls of honey-dew we hear of? The flow of honey from this source lasted about two or three weeks, or until the bees began to work on white clover, and perhaps a little longer, as I find, in taking off honey, the boxes are spotted more or less with the honey-dew, while some are filled entirely with it. As to quality, all I have to say is, if any person can eat it, he is capable of eating any thing. It looks nasty, it tastes nasty, and it *is* nasty; and what to do with it I don't know, for it isn't fit for a hog to eat.

Now, as I am rather ignorant on the subject of entomology, will Prof. Cook, or some one else who is posted, inform us of the different stages of the bark-louse, and about the time they remain in each stage, and whether they often produce this so-called honey-dew? This is a new thing to me, having never in my life noticed it before, and I would like to know how many different kinds of insects and worms are capable of producing honey-dew.

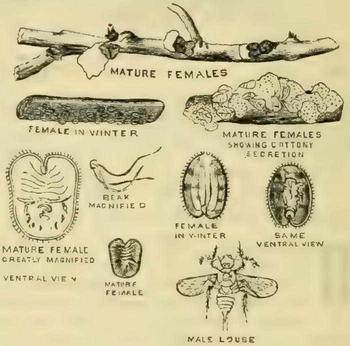
Kingsville, O., June 30, 1884. H. H. PEASE.

Friend P., we are happy to be able to present an article from Prof. Cook on this very subject, as you see.

THE MAPLE-BARK LOUSE.

PROF. COOK THROWS LIGHT ON THE HONEY-DEW MYSTERY.

DEAR MR. EDITOR:—From very numerous inquiries as to name, habit, and remedies, regarding this louse, I have for some weeks intended to write you; but an overwhelming amount of work has prevented, until your letter drives me to it. Pres. E. Orton writes me that this insect is killing the soft-maples, and wishes a remedy. Mr. O. J. Terrill, from North Ridgeville, says they are affording much nectar, which attracts the bees, and seems excellent, and wishes to know if it is probably wholesome. The editor of the Coldwater (Michigan) *Republican*, asks if there is any way to save the maples. These are samples of a score of inquiries coming thick from Ohio, Illinois, Indiana, and Michigan.



DESCRIPTION.

The maple-tree scale or bark louse (*Pulvinaria innumerabilis*, Rath.) consists at this season of a brown scale about five-eighths of an inch long, which is oblong, and slightly notched behind. On the back of the scale are transverse depressions, marking segments. The blunt posterior of the insect is raised by a large dense mass of fibrous cotton-like material, in which will be found about 800 small white eggs. These eggs falling on to a dark surface look to the unaided eye like flour; but with a lens they are found to be oblong, and would be pronounced by all as eggs at once. This cotton-like egg-receptacle is often so thick as to raise the brown scale nearly a fourth of an inch. These scales are found on the under side of the limbs of the trees, and are often so thick as to overlap each other. Often there are hundreds on a single main branch of the tree. I find them on basswood, soft and hard maple, and grapevines, though much the more abundant on the maples.

Another feature, at this mature stage of the insect, is the secretion of a large amount of nectar. This falls on the leaves below, so as to fairly gum them over, as though they were varnished. This nectar is much prized by the bees, which swarm upon the leaves. If such nectar is pleasant to the taste, as Mr. Terrell avers, I should have no fear of the bees collecting it.

From the middle to the last of June, the eggs begin to hatch, though hatching is not completed for some weeks after it begins, so we may expect young lice to hatch out from late in June till August.

The young lice are yellow, half as broad as long, tapering slightly toward the posterior. The seven abdominal segments appear very distinctly. The legs and antenna are seen from the other side. As in the young of all such bark lice, the beak, or sucking-tube, is long and thread-like, and is bent under the body till the young louse is ready to settle down to earnest work as a sapper. Two hair-like appendages, or setæ, terminate the body, which soon disappear.

The young, newly born louse, wanders two or three days, then inserts its beak into the leaves where it first locates. It prefers the middle under side of the leaf. In autumn the much-enlarged louse withdraws from the leaves and attaches to the under side of the twigs and branches, while on the leaves they sometimes, though rarely, withdraw their beak, and change their position. In winter, the young lice remain dormant; but with the warmth of spring, as the sap begins to circulate, the lice begin to suck and grow. The increase of size as the eggs begin to develop is very rapid. Now the drops of nectar begin to fall, so that leaves and sidewalks underneath become sweet and sticky. In the last *Ohio Farmer*, Mr. Singleton states that leaves of the maple do secrete honey-dew. It is on the leaves, and there are no aphides or plant-lice. Mr. Singleton's honey-dew is, without doubt, this same nectar from bark-lice. Had Mr. S. looked on the under side of the branches, instead of on the leaves, he would have found, not aphides, to be sure, but bark-lice.

If these spring lice are examined closely with a low magnifying power, a marginal row of hairs will be seen.

MALES.

Some few of the scales in late July will be noticed to be dimmer, lighter in color, and somewhat more convex above. In these the setæ do not disappear, but may be seen projecting from the posterior end of the scale. In August, the mature males appear. These have the scales, have two wings, and are very active. Although the females are to continue to grow till the next June, coition now takes place. The males are seen for two or three weeks, though probably each individual does not live as many days. It is quite probable that, as in case of production of drone-bees and aphides, the males of these scale-lice are not absolutely necessary to reproduction. We know they are not in some species.

REMEDIES.

By use of a long-handled broom dipped in strong lye or soapsuds, the thickly gathered lice could be readily removed on the lower side of the branches at any time in the spring. This would kill the lice, and prevent egg-laying, or destroy the eggs already laid. The earlier this is done in the spring the better. The position of the lice on the under side of the branches makes this more practicable, if not the only practicable remedy at this season. On a few trees, or on small trees, this is no serious task. If this is neglected, or is thought to be too great a task, the trees may be syringed in early July, just when the young lice are most susceptible, with the following: One quart soft soap, ten quarts water, and one quart kerosene oil; stir all well together. This can be thrown on with a fountain pump. As the lice are mostly on the lower side of the leaves, it should be thrown from below upward. This also applies to other species of bark-lice, which are also very common this season. The basswood, the tulip (see my Manual, p. 249), the elm, the hickory, the blue-ash, etc., are all suffering from bark-lice, much like the above, except that the cottony substance is wanting. It is a comforting truth, that all these species are often destroyed by their enemies before they entirely kill our trees, though they often do great harm. A. J. COOK.

Lansing, Mich., June 17, 1884.

Friend Cook, we are very much obliged indeed for the light you give on the subject. While reading your remarks it struck me that these insects are not very much different from those mentioned last fall, which we found principally on beech-trees, the only difference being that the beech-bark louse has that downy or cottony matter in such excess as to form plumes. These plumes, when the insects are disturbed, are waved in the air in concert, in such a way as to form a very singular appearance indeed. I have never noticed any of these, except rather late in the fall. As you mention that this cottony matter is not always present, may it not be the same insect at a different season, or under different phases? On another page will be found some remarks in regard to the quality of the honey.

MORE ABOUT ITALIANS ON RED CLOVER.

I HAVE read several articles in GLEANINGS, on the above subject, which seem to indicate that Italians do not work on red clover; but I know they do work on it. I have seen them at various times, when passing red-clover fields. A short time ago, when in a field where red clover bloomed abundantly, I saw hundreds of pure Italians, while but one black was seen, and that *one* was on common sorrel, gathering pollen. This plainly shows to me that Italians will gather honey from red clover when white clover is in bloom. Another proof: When extracting to-day from a colony of pure Italians, I found that the honey was very white, and of a superior quality. It had a flavor that I never detected in white-clover honey. It also tasted very much like bumble-bee honey, which shows plainly that it was gathered from red clover. I next extracted from a colony of hybrids, the honey being dark, and more unpleasant to the palate than the red-clover honey. If Italians do not work on red clover, where did they get whiter honey than the hybrids? Why was it superior in quality? In answer to Mr. Smith, I will say that it is unjust and unkind to say it is deceptive to induce people to buy Italians with the expectation of getting surplus honey from red clover. H. W. SIMON.

Youngstown, Ohio, June 28, 1884.

It is quite likely, friend S., that Italians work on red clover more in some localties than in others. When Mr. Langstroth first advertised Italians as working on red clover, as much as twenty years ago, some of us were incredulous; but I supposed the matter had been pretty well settled some time ago,

THE WINTERING DIFFICULTY

Solved at Last.

HOORAH!!

AT least, Bro. Clarke thinks it is, for the above three headings are his own. However, it were no more than fair to give him a hearing. So, friends, our friend W. F. Clarke takes the floor, and we will hear what he has worked out that is new:

Friend Root:—Believing that I have "lit" upon the true principle of wintering bees successfully, and being anxious to make it known as widely as possible for consideration, discussion, experiment, and adoption, I lose no time in sending to the *A. B. J.* and GLEANINGS an account of the matter, differently worded, but each embodying an unreserved statement of my discovery. I am one of those who can never be satisfied until I get hold of a great principle to guide and govern me in what I do, and it has always been my difficulty in regard to wintering bees, that no method in use seemed to be based on a rational and sound principle. Almost the only rule laid down has been, "Maintain a uniform temperature in the hives all winter." This, indeed, has been the grand mistake about wintering, as I shall have occasion to show before I have done.

In common with most practical bee-keepers, I have studied very hard at this problem of wintering, and what I believe to be the true solution of it came to me like a flash. I was lying in my bed the other night, unable to sleep by reason of rheumatism, and trying to think of something interesting enough to divert me from the sense of pain. Amid my ruminations, my mind went back to the days of youth when I was busy chopping and clearing up a bush farm. In the midst of my reverie, "says I to myself, says I," "Do you ever remember cutting down a tree in which a colony of bees had been winter-killed?" "Never," was the instant response. And then I quickly remembered that I had never either heard or read of such a thing. Although such cases may have happened, it is quite evident they are rare, and I came to the conclusion, there and then, that the true principle of wintering bees lay hid in a hollow tree-trunk. I resolved, if possible, to dig it out, and I firmly believe I have done it.

Friend Root, the key to this whole mystery lies in one word—*hibernation.* Bees hibernate in the winter time, and their *habitat* must be such as to enable them to do it, if they are to live and prosper. I know some scientific authorities doubt whether bees hibernate; but the weight of the best opinions on the subject is that they do, and I shall assume this to be a fact, without now going into the proof, of which, however, I think there is abundance. Insects hibernate in various stages of their growth—eggs, pupa, larva, imago, but never hibernate in more than one. Bees hibernate in the perfect, or fully developed state. Insects, like animals, hibernate differently. Some, like the bear, sleep all winter. Others, like the squirrel, have spells of drowsiness out of which they wake at intervals, take a "square meal," and then go to sleep again. These, of course, lay in a store of food that they may have something to eat when they wake up. Bees hibernate like the squirrel. They can not, like the bear, eat themselves fat in the fall, subsist all winter on the adipose tissues, and then wake lean, hungry, and active in the spring. They must have an occasional meal during the winter. Herein, so far as bees are concerned, is the utility of occasional warm spells in winter. These rouse up the little sleepers. They are like the angel that touched Peter when he was in a trance, and said, "Rise and eat!"

Now right here, friend Root, you can see the mistake of keeping up a uniform temperature in the hives all winter long. If the degree is too low, the bees will sleep the sleep of death, or wake up benumbed, to eat frozen victuals which kill them. If the temperature is too high, they can not go to sleep at all; are kept active when they should be torpid; eat too much; get the dysentery, and die. Give them the tree-top conditions, and these, with their own power of regulating temperature, will enable them to hibernate.

What are the conditions of tree-trunk wintering? Well, here are some of them, enough to go upon practically. Elevation above the damp, foul gases that hover at the surface to the earth; *plenty* of *pure* but *still* air; a long hollow shaft, ventilated by a crevice which forms the entrance of the bee-nest; last, but not least, provision for dead bees to fall to the bottom of the hollow tree, so that the bees' home is not made into a cemetery or charnel-house. I must not forget to add, no *upward ventilation.* In such winter quarters, bees can use their own ventilating machinery as necessity requires, and it is well known that they can, when the conditions are normal, vary the temperature at will very considerably.

Now the question arises, Can we get up a hive that will secure the same conditions substantially as exist in the hollow tree in the woods? I answer, We can, simply by having a movable bottom-board, and an attachment underneath it similar to the air-shaft of a hollow tree. I believe a flat-roofed building would best secure the necessary conditions, and I do not see why a bee-house can not be built on this principle. Have the lower story as a work-shop and storehouse; ascend by a stairway to the flat roof; place the hives around the outer edge, each with its winter hopper and tube extending down to within a foot or two of the ground. A plan of this kind would give the long air-shaft, but it would necessitate protection for the hives, which would be very much exposed at so high an elevation.

I am sanguine in the belief that all the essential points in the hollow-tree wintering can be secured without going up so high into the air. The damp, foul gases hover very close to the ground; and if we can get our bees up two or three feet, perhaps it will answer all necessary purposes. Acting on this idea, I have made a hive-stand which can be adapted to any hive. Mine is calculated for a Langstroth hive. The stand is simply a box about table high; the bottom, a piece of 1½-inch plank 20x26 inches, which is spiked to a couple of bits of round cedar for sills, in order to have the least possible contact with the damp, cold earth. The box is tight, with the exception of four auger-holes about six inches from the top, which are covered with wire gauze. Beneath the hive is a sliding bottom-board, to be kept in place during the honey-gathering season, and removed when all danger of comb extension is past. Just beneath this movable bottom-board, and fitting tightly to the top of the stand, is a hopper, like the hopper of a fanning-mill, terminating in a hollow tube, four inches square. Dead bees, excrement, etc., slide down the flaring side of the hopper to the bottom of the box. A side door enables you at any time to see the state of the hive so far as dead bees, dry excreta, etc., disclose it. The box is made sufficiently large to admit of the hive on top of it having an outer covering, or chaff packing, if desired. The outer entrance to the hive is to be left open all winter; to what extent, experiment must determine, as also the size of the air-tube connected with the hopper. What we want to get at is the supply of air sufficient to enable the bees, in the use of their own instincts and resources, to hibernate. Experiment will be needed; and instead of keeping my secret for two or three years, and working away at it alone, I prefer to take the entire brotherhood and sisterhood of bee-keepers into my confidence, and ask their aid in working out this principle, which, I am well convinced, is the correct one for successful wintering. I respectfully and earnestly request every bee-keeper in the land to prepare one colony on this principle, for the coming winter. Do it at *once*, so that the bees may get settled down to housekeeping before winter comes, for I believe that disturbance of their domestic economy late in the season is not wise.

There is a great deal more I want to say on this subject, but this is a pretty long article already, and I must stop. I have said enough to explain my principle, and must leave many points for future development. I will add, however, that I am convinced the plan of setting our hives close to the ground is not a good one. It forces the bees to live in a damp, unwholesome atmosphere, laden with carbonic-acid gas, and exposes them to attacks from toads, etc. I can not see why it would not be better to have the hives table high, so that we can manipulate them without back-breaking stooping, and so that the bees may have better air, and more of it.

WM. F. CLARKE.

Speedside, Ont., Can., June 26, 1884.

Very good, friend Clarke, and I am with you on the main points of your hibernating theory; but I think you start out with an erroneous assumption. Bees *do* die in trees, and that, too, when they have plenty of sealed stores of honey. If I mistake not, we can get a flood of testimony to this effect, by calling for it. I have seen one or two cases myself, where they seemed to die in the trees, exactly as they died in the box hives scattered around at farm-houses. Your idea of a large amount of lower ventilation is, I believe, a good one, and friend Hill, of the *Bee-Keepers' Guide*, has been a vehement advocate of it for many years. Look over his back volumes. I have sometimes wondered why no more attention is given to this matter of wintering hives without any bottom-board; but, if I mistake not, leaving the whole under part of the hive open is almost too much, even though the top be closed entirely. Your hopper arrangement, so as to leave an opening three or four inches square, and still drop all dead bees and debris out, is no doubt a pretty good idea; but I do not believe we need a shaft to make a current of air stronger. Leaving our chaff hives with the entrances wide open all winter long has seemed to be all that is needed. But to show you how doctors disagree, I might add that our friend D. A. Jones urges quite strenuously that the entrances be kept nearly closed, not only during winter, but in fall and spring. If I am correct, he recommends closing it entirely when the winter is so severe there is no possibility that any bees might want to get out. I have been for a good many years pretty well satisfied that bees do, under proper conditions, hibernate, or, at least, live several weeks, or perhaps longer, without taking food. Instances are on record in considerable numbers, where colonies have wintered with almost no consumption of stores at all until they commence to rear brood.

FORGETTERY.

As we are annoyed more or less all the time by careless writers, perhaps it is best to keep a letter or two in this department every month. Here are a couple:

Inclosed find fifty cents, for which send me as soon as possible the following: John Ploughman's Talk and pictures, price 10 cts.; 2 glass-cutters, with knife-sharpener and corkscrew, etc., 20 cts.; 1 glass-cutter, 5 cts. Amount, 35 cts. Postage 14 cts. Total, 49 cts.

Barnes Corners, N. Y., May 19, 1884.

You will observe that our friend above has put every thing in good shape, has called things by the names they are called by in our price list, and has also put in the postage, added the two together, so as to agree with the 50 cents inclosed. There he stops short, does not give his own name, nor even the county and State in which he lives. The latter our clerks made out from his envelop, but the name was beyond human skill. After waiting 21 days he concludes to make inquiry, and sends a postal card as below. But even then he spelled his name so badly that it is a wonder we succeeded in making it out; and had it not been for the postmark we should not have been able to tell where he lived.

I sent you an order for 50 cts. worth of goods about three weeks ago, but have heard nothing of it. Will you please let me know if you received it?

H. G. GREGG.

The next friend who doesn't put his name on lives in California, and he has delayed from April 12 until his letter, written May 24, could reach us.

Inclosed find postal note for $1.27 for the following things: * * * * * *

Hanford, Cal., April 12, 1884.

This time he sends stamp for answer:

I sent you $1.27 the 12th of April, for the following things: * * * * * *

I haven't received the things yet. I sent a postal note for $1.25, and a two-cent postage-stamp. I send postage-stamp for answer. JOHN THOMAS.

May 24, 1884.

There are no wide frames to hold the sections for surplus honey. I sent for hives complete; every thing is all right but that. I want those. I will send you the bill you sent me, so that you can see you have not sent them. THOMAS J. HYDE.

After our clerks had traced the whole matter up, to see where the omission could have come, and got reproved by me for saying they didn't believe the man told the truth about it, the following card was received;

Mr. Thomas Hyde has found his frames; he is all right; he overlooked them. MRS. HYDE.

Afton, N. Y., May 18, 1884.

Below is another, quite similar:

I wrote you a day or two ago in regard to there not being as many wide frames in one of the hives as there should be. I find, on examination, that I was mistaken, and I hasten to apologize. The frames were all right, and were taken out and put away, supposing they were extra ones.

W. S. PARKER.

Pewee Valley, Ky., June 23, 1884.

You see, friends, this is a kind of mutual trouble all around. Our clerks are human, and do leave goods out occasionally; but, unfortunately, our customers are human also, and forget. In order to teach our young people accuracy, they have been in the habit of paying for their mistakes and blunders, and we try to have it done in a pleasant and good-natured way; but after things like the above are traced up, and they find themselves blamed unjustly, they get sometimes a little hardened, as it were, and uncharitable, and more ready next time to say the man is mistaken; all the goods he ordered *were* sent him, and thus it lets the bars down to want of faith and want of kindly feelings all around. It seems to me it should teach us some good lessons, however; that is, to be mild about making our complaints, and to be slow in deciding ourselves wronged.

Here is a friend below who starts out as if he had had some experience in the way of being defrauded:

June 16th I ordered of you 5 smokers, 2 A B C's, and 1 Quinby N. B. Keeper, and inclosed P. O. order for $6.00, the receipt of which you acknowledged by card. A part of the goods arrived to-day; that is to say, 5 smokers, one A B C, one Quinby N. B. Keeper, leaving one A B C short. The weight of the package was marked 9 lbs.; I weighed it, and found it to weigh 9 lbs. and one ounce. I also weighed the A B C book, and found it to weigh 1¾ lbs.; so that, if you had put up two A B C's, it ought to have weighed 10¾ lbs. Inclosed I send you part of package, with yours or the Express Co.'s mark on. Send me the other book, with as little delay as convenient. B. DICKINSON.

Hastings, Mich., June 24, 1884.

You see, he has gone at it in a systematic way, and proved our guilt exactly as a detective would, and evidently seems to think he has got us where we can not get away in trying to put him off with one A B C book, when he has paid for two. From his standpoint, it looks as if he were right, and fully justified. Even if there was no intention of defrauding, such carelessness is shameful, to send one book, when he orders two, and pays for two. Suppose, now, we take another view; this is, that all this trouble might not have come at all, had he waited for a letter of explanation by next mail. This letter would have given substantially the following:

"Friend D., we are so far behind on the new edition of our A B C book, that none are yet out, and we are dividing around the old edition, sending one with your present shipment. The other will go in the course of a week, at our own expense. We thought you would be better pleased to have it this way, than to have two old books, for the new one contains about 20 pages of new matter, besides fifty or more very beautiful and expensive engravings."

I told the young folks a few days ago at the noon service, that if there was any lesson in this world that I needed to learn, it was to be slow about thinking I had been wronged, instead of acting upon the impulse of the moment. You know I have told you over and over again, when you get stung by a bee, to just keep right along with your work, and pay no attention to it. Well, I can stand bee-stings first rate; but even though I am past forty, and bald-headed, I have not yet accumulated wisdom enough to go on in the same way, without saying any thing, when it looks as if somebody wanted to beat me, or had wronged me by unreasonable carelessness. Sometimes, it is true, I do just say, "Now, old fellow, wait a bit; wait until next mail;" or, "Take another careful look into the matter before you start to right things." Another thing that helps me in such times is to take a view of the offender's general habits and life. Is it a firm that has tried to "come the cheat" on me? I stop and ask myself what has been the general character of these people; are they straight and upright, or are they tricky? and after a little while I get ashamed of myself. Now, dear friends, I do not want to have you think you are not to tell us when things are wrong; by all means, ask for an explanation; but please do not be dictatorial and harsh.

INTELLIGENCE OF BEES.

DO THEY LOOK FORWARD AND CALCULATE?

I HAD quite a singular circumstance happen me here the other day. It was about ten minutes before a thunder storm. It was then thundering when I noticed a first swarm of bees leaving the hive. As I was engaged at the time, I told my brother to attend to them. In about three minutes I went to where they were throwing sand, when I noticed they were gradually working away; so I joined in with them, but soon found we could not stop them. So we followed them to the next block, where they made straight for a portico in front of a house, and began crawling in on the side. Now, the question is, Do you suppose the queen knew where she was going, and how far it was? for you know an old queen will never, as a general rule, leave at such a time. I think she must, for they had hardly settled when it began raining. The folks say they had noticed about a dozen bees going in and out of the portico for two or three days before these came. F. W. SCHAFER.

Eddyville, Iowa, June 27, 1884.

Friend S., I think you give the bees more credit than they deserve. They had picked out a location, it is true, and knew just where they were going; but my impression is, although I may be mistaken, that they would have started off in just the same way had their chosen hive been a couple of miles away instead of a few rods. I think you are wrong, too, in assuming that the queen decided when to start, and whether they could make their home before the storm. I think the workers managed that part of it, and the queen simply followed suit.

UNITING BEES.

DOOLITTLE RECOMMENDS UNITING JUST BEFORE THE HONEY-FLOW.

As I am now uniting my weaker colonies of bees, and as I am so often asked privately how I do it, I will tell the readers of GLEANINGS just how I work, so that they can do the same if they wish. Long ago we were told that early spring was the time to unite weak colonies of bees; but years of experience have proved that each of the united colonies would often pull through alone, while, if united, all would perish. The reason for this seems to be, that, by early uniting, an excitement is caused which wears out the nearly exhausted life of the old bees which then compose the little colonies, so that they die before the young bees are sufficiently mature to take up the labor of sustaining the colony, thus causing the loss of the whole thing. Being left as they were, without uniting, they seem to realize their condition, so no great amount of extra labor is performed till the young bees mature, after which such weak colonies build up rapidly.

After learning that early spring was not the time to unite weak colonies of bees, I adopted the following plan, which I have used for years; and I like it so well that I am using it to-day as I work with my bees. In early spring, all the colonies which I think will not make good strong colonies by the middle of June are shut to one side of the hive, upon only as many combs as they have brood in, by means of a movable division-board, which number of combs will be from one to five, according to the strength of the colony. They are thus kept shut up till said combs are full of brood. For feed I generally set a frame of honey beyond the division-board, the carrying oevr of which stimulates brood rearing wonderfully. When the strongest of these weak colonies have their five frames full of brood, I take one of them away and give it to one having four frames full, always taking a frame where I can see plenty of bees just gnawing from the cells. An empty frame is put in the center, to take the place of the frame of hatching brood, which will soon be filled with eggs and brood. Don't on any account give this frame of brood to one of the weakest colonies at this time, as some are prone to do; for by so doing, a part of the brood will be lost, for the bees in the weakest are not yet strong enough to care for more brood than they already have. In a week I take another frame of hatching brood from the same colony, and give it to one that has three frames full, and also take one from the one I gave the frame to the week previous.

Thus I keep on taking from the stronger and giving to the next strongest, till all have five frames of bees and brood, giving brood the latest to the weakest of the little colonies. Now having all of them with five frames of brood, I proceed to unite them as I am doing to-day. I go to No. 1, and look it over till I find the frame the queen is on, which frame (bees, queen, and all) is set over in the vacant side of the hive. I now take the four remaining frames, bees and all, and set them in a comb-carrier, when I set the frame, having the queen upon it, back where it was. I also place beside it an empty comb, and adjust the division-board to suit the two frames, when the hive is closed. Next I take the comb-carrier and proceed to No. 2, which is opened, and the division-board taken out. I now take the first frame next to where the division-board stood, and place it next the opposite side of the hive, when I take a frame from my comb-carrier, bees and all, as taken from No. 1, and place next to the moved frame in No. 2. Next I move another frame in No. 2 up to the one taken from the carrier, when another is taken from the carrier and placed beside it, and so on till the four frames from the carrier are alternated with those in No. 2. As my hives hold nine frames, it will be seen that I now have in No. 2 nine frames completely filled with brood, which will soon make a very populous colony. In this way I keep to work till all are united, and the sequel nearly always shows a better result from these united colonies than from those which were considered strong in the spring. Some ask if there is not danger of having the queen in No. 2 killed in uniting in this way, unless she is caged. I at first feared there might be, and so caged a few; but after using the plan for ten years, without losing a single queen, and also without caging any during that time, I am led to believe that bees thus mixed will never kill a queen occupied in laying at the time of uniting. In fact, I have never known a queen to be killed when bees were thus mixed up at any season of the year, providing the queen was one that belonged to one of the colonies thus united, and I adopt the above plan in uniting in the fall also, only at that time I use the frames containing the most honey instead of frames of brood, as above given. If there are frames of bees, but containing no honey, more than I wish to put in the hive, I shake off the bees in front of the hive, taking first a frame from one hive, and the next from the other, so that the bees shall be completely mixed. I also often make new colonies by taking a frame of brood and bees from several hives, placing them all together in an empty hive, letting a strange queen run in the hive with them as soon as the frames are set in, and I never yet lost a queen, providing she was one taken from my own yard; but a queen which has been shipped a long distance will sometimes be killed if she is thus let among the bees. The same holds true regarding a queen which has long been caged in my own apiary. Why this is I do not know, unless it is that the queen is so long getting to laying that the bees become discontented with her.

I see much in GLEANINGS and the other bee papers, relative to non-increase of bees. Now, if I had more bees than I wished with their increase, I should adopt the above plan with all colonies in early spring, keeping the whole apiary on five combs of brood as long as I could consistently, when I should unite them, thus making half the number of extra strong colonies. These would double by natural swarming in a few weeks, when I would have my original number, having a contented disposition to work, and that with an extra strong force of bees. In my next (Aug. 1st No.) I will tell just you what I do with the little colony of bees left in No. 1, so as to get a good profit from it.

G. M. DOOLITTLE.

Borodino, N. Y., June 16, 1884.

Friend D., I knew you practiced something like this a good many years ago, and I know, too, you have been eminently successful; but still there has always been a query in my mind whether there were really any advantage in uniting two small colonies when they would, in a few weeks, swarm and be two separate colonies again. Why not, when you have got the small colonies up to five frames of brood, go right on in the same way until each one is separately built up to a full colony? If it were desirable to get ready quickly for a yield of honey that lasts only for a short time comparatively, very likely the doubling would do it; for two colonies in one hive would, without doubt, send more bees right into the field, and get more honey than the two in two separate hives. If I am correct, friend Heddon does not agree with this; but it agrees with my experience.

BUYING BEES BY THE POUND.

HOW IT HELPS; AND SOME SUGGESTIONS IN REGARD TO BUYING NEAR AT HOME, ETC.

IN reply to S. J. Youngman, page 308, I would like to make a few remarks about buying bees by the pound, that I hope will be for his benefit and that of many others; for in many parts of the State the death-rate has been very great, and runs, in this county, about like this: One party in Millington went into winter with 44 on summer stands; came out with 3 very weak ones; another in Vassar, with 80 in cellar, and buried, 16 left; one in Arbela, 25, nothing left. They were buried all in one pit, and, judging from appearance, they all smothered. They had all run out of the hives, and left the combs with lots of honey, bright and clean as they were in the fall. Another buried six; took out five alive and strong the first of March, and has since lost two. My loss on all was one-third. Those in the cellar, the loss was slight, caused by starvation; those out of doors in chaff hives, the rate of loss was just two-thirds.

Right here allow me to speak a word of caution to the friends who use their old combs this summer. Those swarms of mine that starved were put on old combs without extracting the honey, and I found this spring it was candied solid, so they could not use it in the winter.

BEES BY THE POUND.

I would say to friend Y., don't think of sending long distances for bees. We have good reliable dealers in this State, and I would advise that, if you have no bees left, buy one swarm, suitable to rear queens from; then make arrangements with your nearest dealer who is reliable, and will ship the very day he agrees to. I would recommend S. C. Perry, Portland, Ionia Co.; then find out by your express agent how long they will be on the road, then have your queen-cells built so as to have one for every pound of bees you have ordered. Start them so as to have them nine or ten days old when your bees should arrive. This will give a chance for two or three days' delay, without fear of their hatching; then to every pound of bees give a queen-cell, a small piece of brood with three old combs, giving more combs as fast as they can use them. I would not advise buying before the 10th of June; and with an average season, all swarms you start in this way up to the 10th of July will be booming swarms in the fall. This is the principle on which I worked to build up on in 1881.

WHAT CAN BE DONE WITH ONE POUND OF BEES, ONE FRAME OF BROOD, AND A SET OF OLD COMBS.

June 22, 1881, out of bees received from S. C. Perry, I took one pound, gave them a frame of brood suitable to build queens-cells on, and nine old combs, and kept an exact account with them. They built ten queen-cells. I removed nine of them, and at the end of the basswood honey-flow I had extracted 56½ lbs. honey from them, allowing them to fill up for winter on fall honey, and wintered them successfully for two winters; but now they are no more.

But I must stop and give the figures, and close this article:

To 1 lb. of bees	$1.25	
" 1 frame of brood	1.25	
" 9 old combs	90	
" 1 hive	1.00	
Total	$4.40.	
By 9 queen-cells		$ 90
" 56½ lbs. basswood honey at 14c. per lb.		7.91
" 1 swarm bees		5.00
Total		$13.81
		4.40
		$ 9.41

This leaves $9.41 for an investment of $4.40, and I think all I bought did just as well. M. D. York.

Millington, Mich., May 5, 1884.

Friend Y., I like your suggestions, especially in regard to getting bees near at home. Long distances mean heavy express charges, and more or less dead bees; and while we are speaking about buying near at home, why not get them of neighboring apiarists who can be reached with a horse and buggy, so as to avoid any express charges whatever? Almost any bee-keeper will make a deduction of 10 to 25 per cent, or still more, if you carry your cages right into his yard, and take your bees away so he has no losses in shipping, or expense out for cages.

MORE ABOUT THE WONDERFUL YIELD OF HONEY-DEW.

A CAUTION TO BEE-KEEPERS.

PLENTY of honey. I have just taken about 400 lbs. of honey, but all dark. Too much honey-dew, mostly on basswood. I have plenty of white clover and alsike, but bees will hardly notice the clover whenever we have honey-dew. I never saw such heavy honey-dews in my life as we are having now. E. J. C. Troxell.

Ft. Seneca, O., June 23, 1884.

Neither did I, friend T., ever see or hear any thing equal to it. Our friend Chalon Fowles, of Oberlin, so Ernest tells me, has extracted about four barrels; and Dan White, of New London, whom many of you know, says he has extracted the enormous quantity of two tons. In one little apiary of only nine colonies, in the town of New London, he extracted, during the latter part of May and fore part of June, about 700 lbs. The disagreeable part of it is, the honey is not fit to eat, although it makes beautiful combs; and when it is in the sections it is as attractive as the best white-clover. Unless we are very careful, however, it is going to injure the sale of honey; for a customer who has once been humbugged by this nice-looking but villainous tasting stuff, will very likely decide that he never wants any more honey. So, please be careful, friends. By holding a comb up to the light you can easily distinguish the dark from the light honey. We have seen some sections that were pretty nearly filled with honey from apple-bloom; but sometimes the corner, or, may be, half of the section, will be filled out with honey-dew. The latter can be cut out and then used for feeding. Friend White says he has succeeded in getting beautiful combs of foundation built out while working on this, and he proposes to save his two tons of honey-dew, and get his bees to work out combs from it by feeding it during a dearth of the honey-flow.

A RATIONAL REMEDY FOR EXCESSIVE SWARMING.

FRIEND DUPUY GIVES US THE KEY TO THE WHOLE TROUBLE.

I SEE in GLEANINGS, friend M. L., Bayou Heron, La., is having too much swarming with his bees. Now, friend M. L., have you not found in all your colonies a queen that would not show any sign of swarming, and give the best yield of honey? That is the queen you must try to breed from. Your trouble has been mine for seven years, and I thought of the above, and now (this year) out of 93 colonies I had but three swarms.

V. P. DUPUY.

Plaquemine, La., June 11, 1884.

Friend D., you have got hold of the matter in a true and scientific way. We have many times of late been forced to the conviction that this excessive swarming is a sort of mania that seems to get hold of certain apiaries. Now just call it an inherited mania, and we have an explanation of the whole thing. Such a mania will build up an apiary very rapidly, but the apiary might be of little profit, and the natural tendency is to develop this mania where natural swarming is allowed, for it would, as a matter of course, soon fill the apiary with colonies which were the result of this excessive swarming. The remedy is just what you indicate in the few lines you have written to us. When we take into consideration that many generations of queens may be reared in a single season, we see how quickly any such trait might be encouraged or bred out. Since I think of it, I wonder the idea has never occurred to me before.

MISSISSIPPI TAKING THE LEAD.

FRIEND BLANTON GIVES US SOME FIGURES IN REGARD TO THE SEASON OF 1883.

HEREWITH I send you the reports of Messrs. Victor Johnson, Davis & Ramus, R. H. Adams, H. A. Harriman, and Charles Kincade, of Chicot County, Ark., Mrs. M. A. Hynes, of Omega, La., and S. C. Vaught and myself, of Washington County, Miss., for the year 1883. Sickness, and pressure of business, prevented my sending it sooner.

Judge Harriman's report extended only to Sept. 11, and Mr. Kincade's to Sept. 1, leaving them more than a month's honey-flow to be accounted for.

Mrs. M. A. Hynes is a lady of 60, and a novice, 1883 being her first season at apiculture.

You will perceive that Mr. Adams' report stands boldly ahead of all others; but knowing him personally, and having access to his account of sales, I can vouch for his report. Even those figures, I believe, can be exceeded. His location is a splendid one, and his strict attention to his apiary, and the use of the extractor whenever required, accounts for his success. He left sufficient honey in his hives to bring them safely through the winter.

This may be called the bright side of bee-keeping; but in this rich alluvial country these results can be realized almost every season by *hard work* and skillful management of the apiary.

Table showing the wonderful yield of honey during 1883, on the alluvial bottoms of the Mississippi River.

	No. Colonies Spring Count	No. Colonies Fall Count	Swarms Lost	No. lbs. Extracted Honey	No. lbs. Comb Honey	No. lbs. Wax	No. lbs. Honey per Colony
O. M. Blanton	201	316	16	30,161	.....	450	150
S. C. Vaught	172	306	7	21,600	1 500	300	1.0
W. S. McLendon	97	162	6	20 500	600	100	216
Chas. H. Kincade	89	118	..	12,775	700	200	151
H. A. Harriman	80	120	.....	15,000	600	.. .	195
R. H. Adams	28	73	....	11,552	...	160	412
Davis & Ramus	15	42	1	5900	...	50	333
Victor Johnson	3	12	.	385	...	20	128
Mrs. M. A. Hynes	3	17	....	750	.....	.	250

This year (1884) opened very unfavorably, with a wet cold spring; and even this month, to within a few days, we have had a very heavy rainfall. The bees are now garnering the nectar with great energy, especially from the white clover.

O. M. BLANTON.

Greenville, Miss., June 17, 1884.

Why, friend B., this is indeed wonderful. If you keep on this way we shall have people moving into your locality worse than they went to California some years ago, and later to Florida. Four hundred and twelve pounds per colony on an average, from an apiary of 28 colonies, is, I think, beyond any thing ever recorded heretofore. Similar results, or even greater, have been made from a chosen few, but this is indeed astonishing; and besides the great yield, we notice friend Adams almost trebled his original number in the spring. Shall we conclude that your people have a wonderful amount of energy, or that your locality is an unusual one for honey? or is it partly both? When I take that trip to New Orleans, I shall promise myself the rare treat of giving you a call, and I should like to go at a time when some of you were getting those immense yields of honey. I suppose, by your concluding remarks, that we may expect to find you "at it," even as late as into October. We have already had samples of your honey from friend Muth, and can certify to the goodness of it.

HUMBUGS AND SWINDLES

PERTAINING TO BEE CULTURE.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

OUR OLD FRIEND N. C. MITCHELL ONCE MORE.

FRIEND ROOT:—I thought N. C. Mitchell was dead; but here he springs up in another place, as you can see by these papers I will send you. He and a friend want $10.00 for a farm-right to make a bee-house, with four hog-troughs running through it, as you see. I was green enough to try to sell farm-rights for Mitchell some time ago, before I knew any thing about movable-comb hives; and the first man I came to knew more about bees than I or Mitchell, and I slinked off home, and threw the sample in the attic, and it is there yet. If any of the friends want a farm-right for making the adjustable hive, they can get a spare one here. DAVID LUCAS.

Jewett, O., June 18, 1884.

Friend L., I, too, supposed that Mitchell had about given up his bad ways, for we had heard nothing for so long a time. It seems now he has thought it safest to get some other man to stand at the head, as the name of Mitchell would kill almost any thing at the outstart, with his past record behind him. We give place to the circular below:

Circular to Bee-Keepers.

OFFICE OF
THE NATIONAL BEE-WAY COMPANY,
Crawfordsville, Ind.

MAY 19, 1884.

The National Bee-Way Company have established at the above-named place an Apiary of two hundred colonies of bees, for the purpose of making honey. The well-known apiarist and apicultural writer, Mr. N. C. Mitchell, will be in charge of the apiary, and will personally direct the practical working and illustration of his new system of bee-keeping, making use of the new principles and improved bee-ways and appliances, of which he is the inventor.

By the application of the new principles in bee-keeping, as taught by Mr. Mitchell, and by the use of the National Bee-Way, and the Improved Adjustable Hive, the profits in bee-keeping are more than twice as great as the profits realized by the practice of any other system, or from the use of any other hive.

The National Bee-Way and Improved Adjustable Hive is meeting with universal favor and unqualified praise from all practical bee-keepers. The Bee-Ways and Improved Adjustable Hives are cheap in their construction, and simple and convenient in their workings; and wherever examined and tested by practical apiarists, they are meeting with approval and adoption.

We are now using eight bee-ways, fifty feet in length, and having compartments for two hundred colonies. The apiarist is entirely sheltered from the sun and wind and rain, doing all the work of manipulation of colonies completely protected from annoyance of any kind. No swarming is allowed; the increase of colonies is regulated at will; the honey is extracted from any colony in the apiary without the knowledge of any other colony, and any colony may be stimulated, or the surplus honey fed back without the knowledge of any other colony.

The danger and annoyance usually experienced and so much dreaded by bee-keepers, that of bees robbing each other, especially while the apiarist is at work, is entirely obviated.

The Bee-Ways and Improved Adjustable Hives are neat, permanent, and attractive, and are an ornament to any garden or lawn. The new system of bee-keeping is simple and easy and plain, and the endeavor is to constantly follow the natural instincts of the bee, and to assist them in securing the best results. The large amount of surplus honey secured, and the facility with which the number and size of the colonies are controlled, and the certainty and expedition with which a large apiary may be manipulated, are a wonder and a gratifying surprise to the many old practical bee-keepers who have examined the system and the new fixtures.

That our new system of management, and the use of the National Bee-Way and Improved adjustable Hive will revolutionize the industry of bee keeping is certain; for by their use, apiculture is made an easy and pleasant business, and the money invested will yield much larger and surer returns than a like sum employed in any other legitimate way. Besides the securing of three times the amount of surplus honey obtained under like conditions by any other management, a prominent feature in our system is that of wintering bees. By the practice of our method a colony is very seldom lost, and there is a saving of about seventy-five per cent in the amount of honey usually required.

Instructions in our new system of bee-keeping are given during the whole of the working season by practical and experienced men, and the student has the advantage of actual experience in the apiary. Students are received at any time, and terms are reasonable. We desire responsible and energetic men and women everywhere to act as agents for the introduction of The National Bee-Way and the Improved Adjustable Hive. For terms, etc., address

N. W. MCLAIN, Manager, Crawfordsville, Ind.

N. B.—Every one interested in the industry of bee-keeping, or in the subject of apiculture, is invited to visit our apiary, and examine the National Bee-Ways, and see the working of our new system of bee-keeping. The apiary is located on the beautiful and finely improved Fair-Grounds of the Montgomery-County Agricultural Association.

Our friends will notice that this is a revival of the exploded house-apiary idea. Mitchell has taken it up after everybody else has been satisfied to drop it. We hope no one who reads these pages will pay Mitchell or anybody else ten dollars, or any smaller sum, for a farm-right pertaining to any thing about bees or bee-hives.

THE GOLDEN BEE-HIVE.

Inclosed you will find a circular which a patent-right vender gave me the other day. What do you think of his hive? S. N. RIGGS.

Rabbit Hash, Ky., June 2, 1884.

The circular referred to is of the Golden bee-hive. The same thing has been sent in by a good many different parties, and it has already been shown up during the past four or five years. Have nothing to do with anybody representing himself as agent for the Golden bee-hive; and, for that matter, we might as well say, any other bee-hive where there are rights for sale. Here is another:

Our neighboring county is being flooded with the Golden bee-hive, and the agents claim a royalty or patent of ten dollars. Is the patent on above-named hive valid? J. B. MARSH.

Collinsville, Ala., May 31, 1884.

There may be a patent on some part of the Golden hive, but it has been fully discussed in our back volumes; and even if there is, nobody needs any thing of the kind.

HUBER'S WORKS.

SOME IMPORTANT INFORMATION FROM COMPETENT AUTHORITY.

FRIEND ROOT:—As there seems to be a muddle with regard to the date of Huber's works, will you allow me to set your correspondents right? I have a library of over five hundred works, and happen to have all Huber's, so can give you the correct dates.

The first was published in 1792, under the title, "*Nouvelles Observations sur les Abeilles, adressees a M. Charles Bonnet.*" The second, which seems to be a reprint of the 1792 edition, has the same title; was published in 1796, and has added to it the following: "Suivres d'un Manuel pratique de la culture des Abeilles, contenant les moyens economique d'en tirer le meilleur part, et les recettes pour faire l'Hydromel, la Biere d'Epicier et de Genievre, par D. Cultivateur d'Abeilles."—The rest was published in 1814, and was the 2d edition. It has a similar title, with the addition of "Seconde edition, revue, corrigée, et considerablement augmentee." This is in two volumes, the former ones being in one volume each, and all these in French. The English edition, under the title of "New Observations on the Natural History of Bees," appeared 1st, in 1806; 2d, 1808; 3d, 1821; 4th, in 1841. This last edition is still to be had. Besides these they were translated into German, under the title, "Neue Beobachtungen über die Bienen," in 1793, by Riem, and again in 1856 and 1859 by G. Kleine; also into Danish by Th. Thorson, in 1859; title, "Nye Fattagelser over Bierne, med Anmærkninger af G. Kleine."

I hope these particulars will set at rest any controversy with regard to the publication of Huber's works. I think Mr. C. Dadant's time is much too valuable to be occupied in translating Huber's works, as already a good translation in English (1841) exists, and can be had; at any rate, sufficient could be had to supply the demand that may exist. The plates of the original, I am told by Mr. Ed. Bertrand, have long since been destroyed; but if a reproduction of the engravings is necessary, why not have them photographed?

On page 228, Mr. Viallon is wrong in saying the first book in English was published in 1592. The first was by Th. Hyll; first appeared in 1574; then in 1579 and 1586, and again in 1593. He also says the first book on bees he knows of was published in German in 1568. Now, leaving out the works of Virgil, Plini, and Columelli, I find 17 different works, the first of which was published in Latin at Cologne in 1472, by Thomas Cantipratensus. There is also Rucellai in Italian, which was first published in 1539, and was reprinted at various intervals until 1770.

I can give you the names and the dates of the other books, if you think it sufficiently interesting to the general public. The number of books published, I find, is 1004, or it may be a great many more; but I know of 1004, and not 800, as Mr. Phin says. In German, 505; French, 133; English, 98; Spanish, 13; Polish, Russian, Slavonian, Servian, 81; Hungarian, 12; Livonian, 4; Swedish, 40; Danish, 23; Oriental, 10. This does not include the works published during the last 12 months, as I have not had time to sort this to send it correctly, and, having been traveling since July last, many of the books of last year have not yet been unpacked and examined. If I can help you any way I shall be glad to do so.

There is another matter now I wish to speak to you about; and, as you wish to do that which is right, I will tell you about it. I see that an automatic honey-extractor is described in GLEANINGS, page 261. I was the first to introduce the "Automatic honey-extractor," five years ago, and it has been in extensive use during all that time. The reversing arrangement is much simpler than Stanley's, and has been illustrated in various periodicals as well as in my "British Bee-keepers' Guide-Book," which was first published in 1881, and of which 7000 copies have been sold in that time, so you see it has been pretty widely circulated, and I can claim priority of title.* I also sent you last year a drawing and description of my honey-evaporator, which is effectual, and much used; but you illustrate one on page 267. I think it but just, when an invention is brought out, either in England or any other country, that credit should be given to it. I have always made a point in doing so, and giving honor to whom honor was due; and I think it but right that others should do so too—you more particularly, as I have just the same objection as you to patents; and as I do not derive any profit from my inventions, credit is still more due. I hope you will receive this rebuke in the same kindly spirit in which it has been given.

The fourth edition of my book is in the press.

Yours truly, THOS. WM. COWAN.

Compton's Lea, Horsham, Eng., May 30, 1884.

Friend C., we are very much obliged indeed for the accurate data you furnish in regard to Huber's works; and we are also much obliged for the information you give us in regard to the bee-books of the world.—Concerning the Automatic honey-extractor, I well recollect seeing notices and illustrations in the *B. B. J.* at the time when they first came out; and although many experiments were made in our own country with machines on this principle, none of them have seemed to win favor in actual practice. I well recollect, too, your kind letter explaining the honey-evaporator; but if I remember correctly, it was considerably more complicated than those recently illustrated. I am very glad indeed to render honor to whom honor is due, and I am glad to know that you agree with me mainly, in regard to patents.—I shall be glad to notice your new book as soon as a sample copy is received.

COLD WATER VS. WHISKY FOR BEE-STINGS.

MRS. HAYHURST GIVES US SOME SUGGESTIONS IN THE MATTER.

DEAR BRO. ROOT:—While reading your remarks in regard to the dangerous after-effects of taking stimulating drinks for bee-stings, I am moved to sit down and tell you I do not believe it necessary at all to give such stimulants at those times. I want to give you our experience with our little three-year-old girl, last summer. She was stung on the arm, and almost immediately her whole body, from the top of her head to her knees, was in a violent fever. She looked exactly like a person suffering from the worst form of erysipelas of the blood. Of course, we were both very much alarmed, but did not think of running for the doctor, but only for his book; viz., Dr. Trall's Hydropathic Encyclopedia, which, by the way, we would not part with for a farm, if it could not be replaced. We found her trouble treated of under the head of "Erythematous Inflammations." The remedy was this: To put her into a cold wet-sheet pack, covering her closely. We put cold cloths on her head, and hot flannels to her feet. In half an hour the swollen, dangerous look was nearly gone; she was sleeping, and perspiring, and we were thankful to our heavenly Father for directing R. T. Trall to study and give us so much valuable information. I gave her all the cool water she would drink. Had she been in a sinking condition, I should have used warm water for the pack. When she came out I bathed her in tepid water, gently rubbing the skin while drying her. I believe plantain, bruised and boiled in milk, and applying a poultice to the swollen parts, and drinking the milk from the plantain, would be *just* as effectual as that terrible foe, whisky.

We had a friend who used this for a dog that was badly bitten by a copperhead snake, and he cured his dog. Plantain grows very freely in everybody's yard; and may we not infer that it is put there by the loving Father for such a purpose? But water, for ourselves, is all we want; and what a blessing it is! How I long to teach and help others, that they may be blessed as we are, in being able to do our own doctoring. We want no medicine—only healthy living, etc. MRS. HAYHURST.

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*Extractors with reversible cages have been used here extensively since 1874, and the Amateur, Rapid, and Automatic extractors, all invented by me, are the principal ones in use. They have always taken the prizes at all the shows, by whomsoever they may be shown, and are sold by all hive-dealers.

Kansas City, Mo., June 18, 1884.

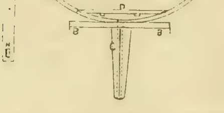
Thank you, my friend, for your timely assistance. I believe cold water freely applied would do very much good in all such cases, and that many of those alarming symptoms would subside very soon, even if no application were made at all. Only last week I was stung in my nose by an irate bee. The position was such that it was quite a difficult matter to extricate the sting; and when I did get it out, the contents of the poison-bag had been pretty effectually squeezed out into my flesh. The sting was so severe that it made the tears come in my eyes, and for a brief interval I experienced a little difficulty in breathing; but I did not get frightened, for I knew it would soon subside, which it did of itself. Should a sting occur so as to obstruct my breathing I should try to hold the passage open by mechanical means, until the swelling subsided. Free applications of cold water would be of great assistance in such cases. The juice of plantain, or a tea made of plantain-leaves, has been several times suggested. Is it really true, that it is a specific against poisonous stings and bites?

FRIEND W. S. HART'S UNCAPPING-BOWL.

A SUBSTITUTE FOR THE UNCAPPING-CAN.

As the season for extracting honey is now upon us, I will give you my plan for an uncapping can, or bowl.

A A is a common large wooden bowl, to be had at any grocery; B B, an inch board, one foot square, to which the bowl is securely fastened with screws. C is a wooden plug with a ¾-inch hole bored lengthwise through its center, said plug being driven tightly into a 2¼-inch hole bored through the bottom of the bowl, and the inch board on which it sits. D is a grate, made of light sticks cut out while rabbeting hives. G is a ⅞x2-inch strip laid across top of bowl, with cleats on under side to keep it in place. A washer is seen just a little above G. F is a strip 12x⅞x2, with a 1x2 hole cut in each end, H H, and hung at the middle by a screw running through the washer.



I bore a hole through my extracting-table, and put the hollow plug down through it, which allows the bowl to sit close by my extractor. Taking a frame of honey, I set it on end on the strip F, with the projection of top-bar in hole H; uncap one side, turn frame on F, which turns with it. The cappings fall on D, and the honey runs through, and down through spout C into a pail that sits below.

The advantages of the above are cheapness; materials can be got anywhere, and almost any one can put them together; ease in turning, comb-cappings out of the way, and draining as fast as cut, and nothing about the whole affair to rust, jam, or get out of repair.

If any bee-keepers care to use this device, I shall be glad to have them do so. The bowl is lightly waxed with beeswax inside, and painted outside. This prevents both cracking, and soaking honey.

W. S. HART.

New Smyrna, Florida, June 11, 1884.

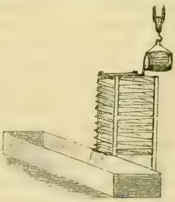
Friend H., your arrangement has one decided advantage; that is, it swings on a pivot, so as to present the comb to the capper in any position; at the same time, the honey goes safely out of the way, and can easily be kept secure from flies and other insects. No doubt the idea will be of considerable advantage to many of the brethren.

RIPENING HONEY BY ARTIFICIAL MEANS.

ANOTHER MACHINE FOR THE PURPOSE.

We take the following from the *American Agriculturist* for July. It is from our friend W. Z. Hutchinson:

RIPENING HONEY.—When first gathered, honey is generally quite thin and watery, so that it can readily be shaken from the combs; but the heat of the hive, aided by the manipulations of the bees, soon reduces it to the proper consistency, when the bees seal it over. It has been asserted, that larger quantities of honey can be obtained, if it is extracted when first gathered, but, when taken in this "green" condition, it must be ripened by artificial means. Otherwise it ferments. It will rarely do so, if nearly ready to seal when extracted; and if allowed to stand in open vessels, the excess of moisture will in time evaporate. Mr. Pettit, a Canadian, has the following method of ripening honey. During a bountiful yield, he extracts as often as once in three days; and when a barrel is full of honey, it is raised, by means of ropes and pulleys, to the upper part of the honey-room. The faucet to the barrel is slightly opened, and a small stream of honey allowed to trickle upon the upper edge of a sheet of tin, the honey drips upon the upper edge of another sheet, placed under the first, but inclined in the opposite direction. From the lower edge of the second sheet, the honey drips upon the upper edge of a third sheet, from the third to the fourth, and in this manner it continues to flow from sheet to sheet, until it passes over about thirty sheets, when it runs into a large vat. To prevent the honey from running off at the sides of the sheets, their edges are slightly turned up. Mr. Pettit has never found it necessary to run the honey through the evaporator more than once.


PETTIT'S HONEY-EVAPORATOR.

There is some difference of opinion, however, as to whether honey thus artificially ripened has the fine aromatic flavor, and smooth, sweet, oily taste, of that thoroughly ripened in the hives. The writer's experience in this matter would lead him to decide the question in the negative.

No doubt the above will answer the purpose nicely; but is it worth all the expense of so much machinery after all? Will not running the honey into a shallow vat, and letting it stand protected from dust, but having free access to air, during these hot July days, be sufficient? Honey left uncovered for any length of time, in almost any kind of vessel, dries out and gets thick—the only trouble being to keep dust out. If friend Pettit has tried it, however, he probably knows more about it than we do, and we should like to have something directly from him, telling us how it works after an extended trial. I am not quite sure the hive can produce better honey than we can by artificial means, for I have seen candied honey, after being thoroughly drained, so as to free it from all watery matter, make, when melted, about the finest honey I ever saw produced by any means. I hope this honey-evaporator will answer as well.

PERFORATED ZINC HONEY-BOARDS.

ALSO SOME OTHER MATTERS.

THIS is my second season with perforated zinc, and with me it works finely. I am using the old size, and as yet have had no trouble with the queen in the upper story. I have given it a fair and thorough trial, and would not be without it. It is possible that some queens may be able to pass through the perforations, but I do not believe they will attempt to do so, if they are not crowded out below. I find that there is but little pollen stored in the upper story, where the zinc is used, while without it the same colony will store it above, in preference to the brood-chamber. It does not prevent my bees from storing above, as the colonies in which it is used pass as freely into the upper story as those in which it is not. I apprehend that any who find difficulty of any kind in using it, either do not fully understand bee-management, or they have a different class of bees from those found in my apiary.

I have not experimented with the smaller-sized perforations, from the fact that the large size works so well that I can see no reason for changing. Perhaps it may deter the bees from passing readily into sections; but as yet I have met with no trouble of that kind. My bees are all pure Italians, notwithstanding which they are ready at all times to go into sections, as soon as I am ready to put them on the frames.

My method for getting surplus honey started at once in sections is, to cause the cells to be filled with brood close up to the top-bars of the frames. This I find can easily be done, either by extracting or reversing the frames. I have tried both plans to some extent, and am in favor of extracting, as I find it much less work to do so than to bother with reversing; for it is a great bother to reverse hanging frames by any method I have yet seen.

REVERSIBLE FRAMES.

This matter of reversing frames is one of the new hobbies that I advise all to "go a little slow" in regard to. Bee-keepers as a rule, I find, are a little apt to take to new things, and become quite enthusiastic in recommending them, and that, too, before it is possible to give them a fair and faithful test. Friend Doolittle admits this in the matter of wintering, and friend Hutchinson will also, if asked for an opinion; notwithstanding, he is positive that separators are not needed by bee-keepers generally, because a test of one season proved that his bees gave good results without them. Beginners as a rule, too, are apt to follow the course laid down as the rule for their own operations, by men of experience, and that, too, without taking into consideration the difference of location and flora. Friend Doolittle's method of working an apiary is probably the very best one for his locality; but if I myself should attempt to follow it, I should come out minus, so far as honey is concerned. His honey is all gathered in a few days in July, while the flora in the vicinity of my own apiary yields nectar continuously (though in small quantities) from fruit-bloom to fall flowers, save and except about 10 to 12 days after the blossoms of fruit-trees drop off. Judging from my experience during the last two seasons, colonies that are strong, very strong, by the middle of May, will gather at least one-half of all the honey they will get in the season, from fruit-bloom alone, provided, of course, the weather is pleasant. Should friend Doolittle, on the contrary, build up his colonies to full strength thus early, he would simply have reared up a large quantity of idlers, for want of something to do, that would eat him out of house and home before his honey-season commenced.

From the above it will be seen at once, that no one can safely follow in the footsteps of any successful apiarist, and do so blindly, unless the conditions prove exactly the same; for if it should so happen that they do not, disappointment would follow, and blame be placed where it most certainly does not belong. J. E. POND, JR.

Foxboro, Mass., June 24, 1884.

FLORIDA.

COST OF TRANSPORTING BEES THERE, ETC.

LAST November I shipped by express 17 nuclei of bees, so as to be sure to have some good Italians. I shipped from Bonair, in Northern Iowa; cost of expressing, about $3.00 per hive; came through all right, except two queens missing. Of the rest, 13 queens proved to be pure Italians, and very fine. They were young untested queens, raised last summer, mostly from one of G. M. Doolittle's best, or $3.00 queens; a few were from an Oatman queen. They have gathered pollen every month since November, and in January and February they filled combs with honey. In March, orange blossomed, and the bees gathered honey again, and filled hives with brood rapidly. I had combs to give them, sent by freight from Iowa, where I have 76 colonies in large chaff hives. I shall have a fine place to raise queens, as there is only one colony of black bees in several miles, and I shall try to buy or Italianize them.

Palmetto will soon be in bloom, which makes the best honey here, I think. What honey I have extracted, about 150 lbs., is quite a rich honey, much lighter than buckwheat, but not so fine as white clover. We are 18 miles from the coast, where the mangrove grows. The orange honey is not as good as I supposed it would be, but much ahead of buckwheat. I don't know what the January honey was, unless it was spruce pine, which blossomed then, and the bees were very busy on it. It grows in the scrub, about a mile from here. I do not think this would be the place to sell a large amount of honey, but there will be no trouble getting enough to supply the entire home demand, and it can be sold here so as to compete with any other sweet. As to profit, I can tell better when the season is through. Will report again when I learn more about the business here.

This is a region of small lakes, interspersed with pine land. We are nine miles east of the St. John's River. A large green dragon-fly, called here mosquito hawk, comes in April, or last of March, and sometimes in great numbers. They kill a good many worker-bees. It is sad to see them follow a bee on the wing, and catch them, eating off their heads first. We can see them flying around with the bees in their clutches, eating as they fly. I think they get enough to do quite a good deal of damage to the working force. They travel about a good deal. Some days there are none to be seen. I think they last only a few weeks. G. W. WEBSTER.

Orange City, Fla., April 21, 1884.

MRS. COTTON AND HER HIVE.

BY ONE WHO HAS BEEN READING HER BOOK.

I HAVE been reading Mrs. Cotton's book (I shall call it "Mrs.," because the picture that prefaces the book looks like that of a woman), and the spirit moves me to say something about it. First, she condemns all new-fashioned hives but her own, which I should think as unhandy as a movable-frame hive could be made. She recommends feeding in the spring as soon as warm weather comes, and, just before apple-blossom, feed all they will take, to get them well started in the boxes; but during the honey-harvest she discontinues feeding for a short time; but after honey begins to fail, feed again until all the boxes are full. In this way she gets over 200 lbs. of box *honey* per hive, and has got 380 and a fraction (she doesn't say how large a fraction) from one hive in one season. I should think feeding was her best hold. This honey brings her from 30 to 35 cts. per lb. Her feed is made of sugar, the white of eggs, and water, and, when stored in glass boxes in Mrs. Cotton's hive, no one can tell it from pure honey. Price of hive, all complete, $12.00. She condemns the extractor unsparingly; says large yields of extracted honey have been reported, but that extracted honey is easily counterfeited, and that dishonesty is abroad in the land. I thought so myself. I have not invested a cent in any of Mrs. Cotton's goods, and have no personal spite against her; but I know people are being misled by her, and thought a word might catch some one's eye who was intending to try some of her plans. J. WOOLSEY.

Bedford, N. Y., May, 1884.

It seems to me you are putting it a little strong, friend W., in regard to feeding, although it certainly does look a little queer to read her statements of how large a quantity of honey she got from one hive in a season, and then to see her state in her book that sugar feeding is to be recommended, and that the honey is just as good, or better, if the bees get some syrup in the sections, made of the best granulated sugar. I am sorry to publish any thing that sounds like fault-finding; but Mrs C., in her book, does find a very great deal of fault.

REPORTS DISCOURAGING.

WE have been watching for some time during this beautiful weather, with its wonderful flow of honey, for something to put in this department to kind o' keep things balanced, you know; but the best we can find is the following, and I am afraid some of the friends will complain that even this is not to the point. Well, it is the best we can do, so I think it will have to answer. Our friend sent for a queen with a pound of bees, and he tells below what he did with them:

I have got my bees hived at last. Did you ever have a lot of bees turned loose in your parlor, and get in there with the windows and doors all shut—hot weather, every thing hot inside, and the bees applying their "hot" ends to yourself?

"O wife! let me out."

"I can't; the bees will get out."

Talk about Italians being gentle! Well, on returning yesterday morning I found my bees safely housed, but not in a hive. My wife had received them from the express carrier, and had taken them into the parlor to unwrap them (they were wrapped in three large papers), and look at them, when out flew a portion of them. The end of the cage was smashed and torn open, and about one-third of the bees were smothered.

It seems that, at each express agent's hands they passed through, he wrapped an additional paper around them. I do think they ought to handle goods more carefully, or be made pay the damage. I have not found the queen yet; perhaps she is alive, and I may have overlooked her in my hurry to get them hived.

The queen that you sent me by mail is doing all right. I am just in time with GLEANINGS, as I have not missed any since my subscription expired in May.

I will tell you why I am buying bees of you. I want some bees to take care of next winter. I went into winter quarters with six stands packed where they stood in the summer, and also one stand not packed. The one was a small hive, while the six packed were large ones, with no upward ventilation. Now, the six that I took care of died, while the one that I did not care for, and did not pack, lived through, and is chuck full of brood at this writing. Now, what do you think? I like bees; must have them as fast as I am able to buy them. I want to gain what I have lost, and then gain again.

Toledo, Ill., June 13, 1884. CHAS. S. AKINS.

As it is not very often that the express companies manage to break our light cages that are shipped so cheaply, we thought best not to make any bill of damages, but just sent friend A. his bees over again. In regard to the death of those that you took too much care of, friend A., I am afraid you neglected that great important part of letting them have lots of pure air right through the hive, even during zero weather.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

DIRECTIONS FOR MAKING A COLD-BLAST SMOKER.

GLEANINGS of the first inst. is at hand, in which is shown the way to make a smoker. The information given is not what suits me. I think it is not complete. The most important part is omitted; namely, the way to put a smoker together with the screws. I can neither see how they are put in nor taken out. If you put them in after the fire-box is all put together, how do you do it? Just let me know. I want to get mine apart, so that I can clean the blast-tube. The tube gets choked up with a sort of creosote—a gummy substance hard to remove, and this I did by cutting off the nose of the smoker far enough back to get at the end of the blast-tube. I have now got on a loose one, so that I can get at the tube to clean it. The fuel I have used consisted of dry old rags, paper, moss, and shavings, such as are used for packing furniture, and bark; all produce the same results. I am not pleased with its working. I want to know how to get the screws out without wrenching them out. Will you tell me how you get them in, and how to get them out? HENRY ALLEN.

Santa Rosa, Cal., June 9, 1884.

Friend A., you do not need to take a smoker apart to clean out the blast-tube at all, neither do you have to cut the nose off. Simply use a bent wire of pretty good size; and after pushing out the accumulation, wind a bit of rag about the end, and swab it. This wire will go down in the nozzle of the smoker easily. With a little care you can push the valve to one side so as to get your bent wire in at the other end of the blast-tube also. Perhaps your fuel is something that generates a good deal of gummy matter. Very dry rotten wood does not fill the blast-tube. If you want to take the screws out, they are to be drawn out with a long slender-pointed screw-driver. Our girls turn them down into their places very rapidly.

OIL OF WINTERGREEN AS A SUBSTITUTE FOR SMOKE.

I tried Mr. Spidle's substitute for smoke (see p. 314). I got an ounce of the best oil of wintergreen, and paid 30 cents for it. As my bees are all hybrids, I thought if it would work on them it would on any. Well, when I use the oil on my hands I can manipulate some of my hives, and the bees will be very quiet, and not offer to sting, while other hives will pay very little attention to the wintergreen, and can be controlled only by the use of smoke. But I have received no stings on the hands since commencing the use of the oil of wintergreen. I think one could handle Italians without smoke, if it were used, but I don't think I shall invest in any more after the one ounce is used up.

A CASTER-WHEEL FOR FASTENING FDN. TO THE COMB-GUIDES.

Did you ever try using a bed-caster for fastening foundation in V-topped brood-frames? If not, just try it. You will throw away putty-knives and screw-drivers, and use them no more after using the bed-caster. Get an iron one, dip it into water, then press your foundation along the side of the top-bar with your thumb, then run the wheel of the caster over the foundation lightly, then draw the wheel back and forth once or twice more, each time pressing a little harder, and the thing is done nicely and quickly. Have your foundation slightly warm, and you need not even rub any wax on the side of the bar before putting on the foundation, as most people do. Be sure to use a caster with an iron wheel, as it will not slip and injure the foundation as a caster with a porcelain wheel will. M. MILLER.

Leclaire, Iowa, June 17, 1884.

Friend M., are you really sure that the wintergreen did any good at all? Very likely you are right, but I can not quite understand why it should make any difference.—I have used a wheel similar to a caster-wheel for the purpose you mention, but the wheel was a wooden one. Your suggestion is doubtless a good one, but almost everybody nowadays fastens his fdn. into wired frames.

WHAT AILS THE BEES?

My bees have been dying lately under very curious circumstances. Every morning I find lots of them in front of the entrance, dead. Some are loaded with pollen, and others are not; sometimes I see them come out of the hive and buzz around, and are dead. When the other bees see them they try to drive them off as if their enemies. One of my neighbors says his bees die the same way. Every one whom I have asked, reports the same state of affairs. All the bee-books that I have, mention nothing on such a case. If you can give us any light on the subject, I should like to have you do so. JACOB GIERISCH.

Wood's Cross, Davis Co., Utah, June 6, 1884.

Friend G., I think there is hardly a question but that the bees were poisoned. It may be they found Paris green, fly poison, or something of that sort, and I suppose it is possible, too, that they are getting something from some poisonous plant, although the latter has not yet been proven clearly. If it were earlier in the season, I should think it might be a phase of the spring dwindling, that will disappear with warm settled weather.

KEEPING BEES NEAR OR OVER LARGE BODIES OF WATER.

I have just received my last issue of GLEANINGS, and can tell Thomas C. Kincade something about the cause of the bees falling in the water. I have had my bees for seven weeks on a scaffold, in about four feet of water, and have had time to observe them. I have noticed that they fall in only as they come in loaded with honey, or when fighting—never as they go out, unless there is a sprinkle to wet their wings. It must be the load they bring that makes them so tired they fall before getting to the hive. The proof of that is, that when honey was plentiful lately, we would all spend our time picking bees out of the water; and now that it is scarce, there are very seldom any to be found, except after a sprinkle. M. LAFOREST.

Bayou Heron, La., May 22, 1884.

VALUE OF THE LOCUST TO BEE-KEEPERS, ETC.

I am an A B C scholar, and am also a reader of GLEANINGS, which I like very much. I live on the eastern slope of the Blue Ridge, in one of the most beautiful countries in the world. These lands in this section are best adapted to grass, and are used mostly for grazing purposes, which makes white clover come in abundance; for it seems, where the grass is grazed close, more of it comes than when it is not grazed at all, and I believe it yields more honey; for while the bees are scarcely seen on it in the high grass, they are swarming on that in the pasture-fields from morning till night. I have not noticed any one, in writing of the various honey-producing trees, making any mention of locust. The locust-tree blossoms here about the middle of May, coming in a little after the apple-bloom, and is one of the finest honey-producing flowers of any we have, lasting about a week or ten days. We always have swarms during locust-bloom, and I have known swarms to fill a hive from top to bottom in from 5 to 6 days, from locust alone. The honey is very nice and clear, and delicious to the taste. I think it better than white clover. I live about a mile and a half from the wooded section. Bees always do better in this wooded section than they do down with me. I attribute this to the fact that, in this wooded section, there are thousands of poplar and chestnut trees, both of which bear honey-producing flowers. I regard the poplar, however, as the better of these two for honey. **Edward C. Heterick.**

Washington, Va., June 7, 1884.

OUR AGRICULTURAL FAIRS, AND THE PREMIUMS THEY OFFER.

One of our friends copies the following from a paper:

> It is a matter of especial gratification to every thinking citizen, that the enthusiastic apiarist, Mr. Byron Dickinson, has so wonderfully developed and made manifest the pleasure and profit of bee-keeping in this county. Now, at the last county fair his exhibit was large, valuable—over $700 worth—expensively and artistically displayed. His award was one dollar and three ribbons—the latter not having value enough to admit him to the fair once next season, and the whole caboodle not worth as much as the premium a lady received on a plant she carried in her hand.
>
> At an expense of one hundred and fifty dollars, Mr. J. L. Reed made and put on exhibition a beautiful buggy. His award did not equal that on a big turnip or rotund pumpkin.

This is bad, I admit, and it often comes about, I think, because the managers of the fairs are not posted, or are too careless to attend to the awards as they should do. Very likely, no bee-keeper was present at the meeting when these things were arranged, and I do not know whose fault it was so much as that of the bee-keepers themselves for not being on hand and letting their light shine. May be the judges thought friend Dickinson advertised his wares and honey enough to pay him for his time and trouble, and the same way with the buggy-man, while the producer of the pumpkins and turnips could not very well hope to build up a trade by taking these things to the fair, in the same way the bee-man and the buggy-man did.

HOW TO MAKE A SWARMING-POLE.

I send you a description of an invention which I am using to hive bees with this season, and which answers the purpose of ladder, step-ladder, and an assistant also. If you will name it I will give you a right to make, use, and sell.

Take a good stiff light piece of timber (basswood is best), 1½ inches square, about 16 inches in length at one end; nail a strip crosswise on the end, ½x¾ of an inch, and 12 inches long, and put one on the opposite side of the staff, to correspond; now turn the staff one-eighth around, and nail on another, and one opposite; they will need to be about 1¼ or 1½ inches apart, and 12 or 15 pairs of cross-sticks. Care should be taken to turn the staff just ⅛ around for each cross-stick, and to nail one exactly opposite each time, to keep it uniform; and if the center-sticks are longer, gradually shortening each way, it will look better. Each stick should be nailed with two small shingle nails; the main part of the staff may be round. When a swarm begins to alight, place the end of the staff on which the cross-sticks are nailed, under the cluster, and they will alight on the staff, and can be carried several rods to the hive, if need be. Two staves should be made, one about eight feet in length, and one longer, to take down swarms form tall trees. With one of these, any lady or an elderly person may hive a swarm that alights high, without any trouble. They are the nicest thing I ever saw around an apiary. I have used one only since I commenced to write this. If the upper part is stained slate color (or bee color), I think it would be better. **J. H. Andre.**

Lockwood, Tioga Co., N. Y., June 18, 1884.

Thank you, friend A. I know bees will cluster on such an arrangement, for they seem to have a particular fancy for crawling around in nooks and corners, and a large swarm would nearly fill the place occupied by the sticks. I suppose you could get them off in front of the hive by laying the pole in front of the entrance, or, if in a hurry, striking it against your hand just below where the sticks are nailed on. Who will give it a trial, and report?

SOME OF A BEGINNER'S TROUBLES.

In March, 1883, I caught two swarms of black bees. I knew about as much about bees as to know there were such things. I hived them in flour-barrels. Last April they sent off 7 swarms, 2 absconding; 4 of the others I hived in barrels, and the other being very small, I put it in a small box. I now began to be interested in them, and sent for your A B C book and Gleanings. I studied my A B C pretty well while my Simplicity hives were coming, and found two of my young swarms were nicely marked hybrids. As soon as my hives came, I got ready to transfer, and transferred one of the young swarms. That night they seemed to be doing well. The next morning they were gone. Seeing a commotion in another hive a few feet away, I concluded they had gone in there. I transferred them into the same hive that I did No. 1, and, sure enough, I found two queens—one a fine hybrid, the other a poor-looking black one, almost dead. Now, what bothers me is, that No. 2 shows signs of deserting their brood, and consolidating with another barrel hive. If they keep on in this manner, I shall need a hive about five feet square. What do you suppose makes them leave their brood, and act in this manner? I disguised the other barrels, covering them with sheets.

Yours in much perplexity at such erratic proceedings,— **Clarence Hopkins.**

Port Gibson, Miss., June 21, 1884.

Friend H., if I am correct, one of your troubles was occasioned by setting your flour-barrels too near together; then when you went to transfer, your new hives were so unlike the old ones, the bees did not understand the new order of things, and all piled into the nearest familiar-looking flour-barrel. Where we are to transfer from such odd-looking hives, it is best to disguise the one to be transferred, by a cloth or otherwise; and then after transferring, put this same disguise over the new hive; they would then go right in as they did before. You have probably got the hang of the matter by this time. Place your hives hereafter not less than seven feet apart; and a rod or two might be even better, if they face with the entrances the same way.

FROM 3 TO 10, AND NEARLY 100 LBS. OF HONEY ALREADY.

Last winter I kept three hives of bees in box hives. In April they began to swarm, and by the first of June they had thrown out 10 new swarms. I secured 4 of them, and, in my absence, my wife mustered courage, and hived two swarms in one day. I have one L. hive with section boxes, in which I put a swarm the first week in May. In three weeks they had filled their frames and all the section boxes, and I took 28 lbs. of fine white-clover honey. Now, they have about filled the new sections, and I am in great trouble to get new supplies. I have taken nearly 100 lbs. of honey; but if I were rightly equipped I could have taken a great deal more. I must have some supplies from you before another season, as I am getting more and more interested in bee culture. There is no trouble in wintering here, and there is a long season to gather honey in. I wish I could pass you some of our lovely cherries and apples and berries, for they are now ripe, and very plentiful. I have a supply of cherries from the 20th of May until the 1st of August. Can you beat that? My former home was New Haven, Ct., but I much prefer the sunny South.

I handle the bees without veil or gloves.

C. B. SHEPARD.

Claremont, Va., June 18, 1884.

5250 LBS. OF HONEY FROM 50 COLONIES IN 16 DAYS OR A LITTLE MORE.

The German bee-keepers tell me that they extracted 5250 lbs. of honey in a little more than 16 days from about 50 swarms. They had more, but only about 50 available swarms at that time, as the others had lately been transferred, and had to build up during orange-honey time. If America can do as well as that, Palestine will try again. This country seems to "flow" with "honey" if not with "milk;" but Palestine needs only a good strain of cows, and somebody who knows how to take care of them, to make it the land of yore; to-wit, "A land flowing with milk and honey."

A PROMISE OF A SHIPMENT OF QUEENS DIRECT FROM PALESTINE.

I think you make a mistake when you prefer the Italian rather than the Palestine bee. I am not much acquainted with Italians, but certainly the Palestine bees are very gentle—more so than I have been accustomed to see bees in America, and I think their prolificness can not be doubted for a moment by any one acquainted with them.

I expect to ship for America about June 25 or 30, and it takes about 30 days to cross the water. I shall probably call on you in passing west, as I expect also to call at Plymouth, Ind. I suppose the German bee-keepers, Messrs. Baldenspergers, will send by me for an extractor, a wax-extractor, and probably a foundation-machine, and perhaps some other things. I hope to let you have queens enough to pay for these goods, if no more. I may also want an extractor myself to take to Florida with me, and considerable foundation.

I can not bring you any Italians, as you suggested, as the steamer that I shall take I suppose will not touch at Italy; and besides I expect to have all the queens I can handle. The other articles will be seashells from Jaffa beach, photographic views of Jerusalem and its surroundings and places, and ruins in Palestine, flowers artistically arranged from wild flowers in and around Jerusalem, Mt. of Olives, Zion, olive-wood goods, etc. Many people of America are very anxious to get some of these goods as keepsakes and souvenirs of the Holy Land.

DANIEL HOWARD.

Jaffa, Palestine, May 27, 1884.

We shall be very glad to have you pay us a visit, friend H.; and if you can bring along some queens from Palestine, whose bees are good-natured, and easy to handle, we shall be very glad indeed to see them also.

COMBS BREAKING BY HEAVY FEEDING.

I had a swarm issue on the 8th of this month. They aired themselves about two hours or so; if it is any difference, it was over that time; settled as nicely as you please. I had some comb, empty, which I had not melted into beeswax, and I put it into one of the frames, and fastened it with some pins. The next two days were stormy and rainy, so I fed them two pints of sugar syrup, which they put into this empty comb, which, of course, made it very heavy, and it fell to the bottom of the hive, and bent up. Now the question is, Would you have taken it out of the hive, or left it as it was? I left it in, and they filled both sides of it, bottom and top, and are building the other combs down to it. I had another swarm issue and settle, and were hived (I did it), and went back into the parent hive, and have not swarmed since. My bees or swarms do not settle on the same limb every time; in fact, they have not done it at all as yet.

MOCKING-BIRDS FOR BEES, AND BEES FOR MOCKING-BIRDS.

Last fall some of our relations in Kentucky sent us some mocking-birds. Two died, and this spring Mr. Fox (he doesn't catch chickens, because he is a two-legged Fox), said he would give my sister $12.00 for a bird; but one day we fed him some berries, and the bees were humming about and in the cage, and he (the mocking-bird) snapped one up, and it must have stung him, for the next morning he was dead.

A. H. PERING.

Clear Creek, Ind., June 23, 1884.

Friend P., it is a singular fact that bees will fill bits of comb, when fastened in by pins or transferring-clasps, all right, if they gather natural stores; while if you attempt to feed them they will almost always tumble down. I do not know why it is, unless it is because the feed comes in a kind of unnatural way, and they do not have a chance to put it in as they do natural stores.—So your $12.00 mocking-bird came out second best, did he, friend P.?

NO CLOVER, NO BASSWOOD, AND STILL A GOOD BEE COUNTRY.

This is a fine bee-country; there are plenty in the woods, and any one can have all the honey he wants with but little trouble. I think there are over 500 hives within four or five miles of me, and no one has over forty or fifty. Honey is worth 10 cts., comb; extracted, 60 cents per gallon, and no sale at that. Our laboring class prefer to spend their money for whisky. All honey here is made from wild flowers, unless it is fruit-bloom, which lasts till fall. I had quite a heavy yield on the last of October, from what I call aster-plant. It grows profusely here in old clearings. We have no clover here on the bottoms; no basswood (linn); no buckwheat is sown. All comes from the woods or fields. It is pure, and sometimes as white as clover, and as finely flavored. I cut out some to-day as fine as any white-clover honey I ever raised in Kentucky before the war. **FRANK GENTRY.**

Riverton, Miss., May 28, 1884.

A SUGGESTION IN REGARD TO RAISING SEEDS OF THE FIGWORT AND SPIDER-PLANT.

I will tell you what luck I had with those seeds I sent for some time ago. I got a fine lot of Simpson-plants. I thought it would be hard to raise, but I sowed it on ground that had a brush-pile burned on it, and it came up well. My spider is just coming up; but my sweet clover has done no good; hardly any of it came up. Pea-vine came up all right. Bees seem to be doing well now here.

R. C. BORLAND.

Star Valley, Kan., May 19, 1884.

Friend B., a place where a brush-heap has been burned is good for almost all kinds of seeds; and as the figwort is a sort of wild plant, perhaps that is just about the kind of soil it needs.

NOTES FROM A SOUTH-EAST MISSOURI APIARY.

I wintered my four colonies on summer stands. They gathered the first pollen and honey March 22, since which time there has been a profusion of flowers, pollen and honey coming in all the time — no gap whatever. They commenced breeding up in February. Four large swarms have issued since the 22d of May. Two swarms issued at the same time, and clustered together. I drove them all in one hive, then put on a second story. One queen and swarm took the lower story, the other the upper. I went at dusk and placed the upper one on a bottom-board; put on the cover, and they were all right. So there is no trouble in dividing swarms when they go together. In one hive, eight days after the first issued, the after-swarm came out; and to get this swarm I climbed a ladder thirty feet, and cut a limb from a walnut-tree, containing the swarm, carried it down, and shook them off in front of the hive, without a veil or gloves, smoker or water, and never received a single sting. My bees are what some writers call the vicious hybrids, so I think that very good for a beginner. I saw the queen; she ran over all the bees, and into the hive she went. I am possessed of a very good natural art talent, and have drawn and painted a queen-bee so natural that the humming-birds come and station themselves on the wing in front of the hive, and chat and hum at the painted bee. **E. W. GEER.**

St. Mary's, Mo., June 4, 1884.

CALLING THINGS BY THEIR RIGHT NAMES.

Nomenclature in bee matters and things, alluded to in December GLEANINGS, page 794, reminds me that the honey "extractor" is misnamed. It is conceded that a man has a right to call himself by any name he chooses, and may be the inventor of our indispensable honey-machine had a right to call it "extractor." Webster all along would have us to understand that to extract is to "draw" out—never to "throw" out; and the uninitiated are always impressed with the idea that a honey-extractor must be a very complicated and costly machine, to be able to *suck* the honey out without breaking the comb, but turn away with disappointment and disgust, to find it only a slinging apparatus, as simple as a churn. **J. L. CALDWELL.**

Mart, Texas, June 4, 1884.

Friend C., there is just now being considerable attention turned to this matter of the names of things in bee culture. Friend Phin, in his little book entitled "Dictionary of Practical Apiculture," accepts the name "extractor" without remark or comment, although he protests pretty vehemently against many of the established names. Even if there is a pretty good reason for changing the name of the honey-extractor, I can not think it will be advisabie to attempt it now, for it has become pretty thoroughly established by a good many years' use, and I should say the same in regard to a good many of the changes friend Phin recommends very earnestly. Don't you think it allowable, friend C., to say that extracting may be done by centrifugal force? Honey-slinger is not a very elegant name; at least, it does not seem so to me, although I know the machine is so named in many districts, and in a few of the price lists.

REPORT OF THE SEASON FROM TEXAS.

The spring opened favorably for bees; commenced swarming March 26; April 20 we had a severe cold spell, lasting several days, then we had so much rain that young swarms fared badly when not fed. A great many in the county died. I fed mine, and lost none. I commenced this spring with 160; had about 100 swarms, including first and second swarms. Horsemint and linn are blooming now, and bees are gathering very fast.

TWO LAYING QUEENS IN THE SAME HIVE CONTINUOUSLY.

It is said, there are exceptions to all rules, and I think I have one of those exceptions. I opened a hive the first of April, to kill an old queen and put in a cell. I found a fine young queen laying, and the old queen on same frame. I have opened the hive every few days since, and the old one is there yet. I have frequently seen them both laying at the same time, and invariably, with one exceptien, on the same frame. We all know, that, pretty soon after the young queen commences to lay, they kill the old one, but I think this is certainly an exception to the rule.

WALNUT FOR DIPPING-BOARDS.

I saw something in the last journal in regard to dipping-boards being made of hard wood. I bought a fdn. machine last year, and received no instructions how to use it; took A B C, and did the best I could, but had a great deal of trouble about dipping. This spring I thought I would try hard wood. I had two made of black-walnut, ⅜ thick, and they work like a charm. I have had no sticking nor cracking of sheets since. I can dip when the wax is nearly boiling hot. I claim no patent on them. Just try them, and see for yourselves if they are not far superier to the soft-wood boards.

J. W. ECKMAN.

Richmond, Texas, June 3, 1884.

Friend E., we have had quite a number of reports, showing that two queens may work together for some little time in the same hive; but I believe that, as a rule, they are mother and daughter. In our old volumes you will notice that some queens are in the habit of keeping a daughter with them to lay; but after the daughter is taken away, another is reared. For some time now this subject has been dropped a good deal; but I should like to see investigations pushed on. If this trait could be fixed, it would be a most wonderful stride in bee culture; and why not fix it as easily as to fix the trait of non-swarming?—Dipping-plates of walnut will doubtless answer tiptop; but they would be dear in our locality, where nice clear walnut is $50.00 per 1000.

HONEY FROM THE POPLAR AND HOLLY.

I cut down a poplar-tree day before yesterday, that was loaded with blooms, glittering with honey, but not a honey-bee could I find. Did you ever know of bees working on holly-blooms? There is a tree in my swamp, perhaps eight inches through, that is a mass of bloom, and humming with bees from morning till night. L. A. DUGGAN.

Cuthbert, Ga., May 1, 1884.

Friend D., I think the bees must have been very busy on something else, if they would not look at the poplar honey. I do not know that holly has ever been reported before.

THE PROPOSED MEETING OF BEE-KEEPERS AT THE WORLD'S EXPOSITION.

Yours of the 10th inst. is at hand, and I am glad to see that you are disposed to visit us during the World's Exposition at New Orleans. The exposition is to open on the 1st of December next, and last until the 31st day of May, 1885. So you see that it will begin just in good time to allow you and other bee-keepers to have the time to come. I only suggested, in my letter, the months of April and May, as it is really at that time that the South is most pleasant to the sight, as then every thing is in full bloom. But, friend Root, any time that is most convenient to you will give us much pleasure to welcome you in our midst. Trusting that we shall enjoy such a meeting, I remain, in this hope,

Yours truly, P. L. VIALLON.

Bayou Goula, La., May 21, 1884.

Our friends will notice from the above, that there has been a suggestion that the bee-keepers of the world, or, at least, a portion of them, should meet in New Orleans during the great World's Exposition. It has seemed to me a very proper and fitting thing. We have had a very large and profitable gathering in Toronto, and now why not swing around among our Southern friends? I believe bee-keepers generally can get away from home during the winter better than at almost any other time. If it were not for the exposition, October and November would be convenient months to get away, as far as I am concerned personally; but whatever time is fixed upon, I will try to be on hand for a brief visit, if nothing more.

BEES AND FIRE-FLIES.

For 15 years I have had something to do with bees; and for that length of time I have noticed that good honey seasons are invariably accompanied by vast numbers of fire-flies, or lightning-bugs. When there are no bugs there is no honey. I do not recollect to have noticed that anybody else has observed the same, and it occurred to me that it might interest your readers. I suppose that bees and these bugs all thrive on the same food, or there are some conditions of atmosphere that are favorable to both. Will some of your scientific readers explain it? R. H. LOVE.

Allen, Texas, June 2, 1884.

Friend L., fire-flies are quite pleantiful just now in our locality; in fact, more so than I have known for several years, and we are having a very good flow of honey. Nearly 400 colonies are filling their hives so fast that our boys have to move lively, I tell you, to keep combs of fdn. in place as fast as they need them.

WHAT MADE FRIEND BOOKMYER'S BEES ACT SO?

During the month of May I purchased two first swarms from a neighbor; they were hived, and remained about three days where they clustered, then I carried them home, placing them in the shade of two small pear-trees. One swarm went right to work, and was well satisfied, while the other was flying about the hive in great numbers—drones, queen, and all, seeming to be dissatisfied, and apparetnly not working at all. I feared they were intending to leave, as I read in the A B C that the old queen always goes out with the first swarm, and, thinking it better to lose the queen (if such would be the case) than to lose the whole swarm by absconding, I concluded to clip her wing, which I tried, and put her back into the hive. This was about ten o'clock, but still they kept flying all day, and late in the evening, and were still worse in the morning before I was up, but in a different manner; they were running out and in, up and down the hive, as if anxiously hunting something. I instantly saw by their actions that the queen had attempted to take another flight, after having her wings clipped, and was lost in the grass, but could not find her. So I went to my old hive and took out a frame of brood, and gave it to them to raise another, and the hive was hardly closed before they all went in and went to work, and all is well since. Please tell me if I did right in all respects, and why the queen flew out so.

BASSWOOD, COTTONWOOD, OR WHITEWOOD FOR MAKING HIVES.

Will basswood, cottonwood, or whitewood, make good hives? As I have plenty of the above-named trees, I think it would be cheaper than to buy pine lumber. H. S. BOOKMYER.

Clyde, Sand. Co., O., June 9, 1884.

Friend B., I think all the trouble was, they were a second swarm with an unfertile queen; if you gave them a comb of brood they felt satisfied to stay at home. This is why I would always have a comb of brood with every new colony. If I am right in my surmise, you clipped the queen before she had been out on her wedding-flight, and therefore you might just as well have clipped her head off, or, perhaps, better; because then there would have been no danger of her getting back in the hive. If they start queen-cells in the frame of brood, however, you will know she is not there, and you can introduce a queen, or let them rear one.—You can use either of these woods, but I would not recommend them. They shrink and swell too much, and the shrinking and swelling change the relative distance between the frames in the upper and lower stories. Better use pine for hives.

ANTS IN THE HONEY-ROOM.

Please ask the readers of GLEANINGS to tell us of something that will drive small black ants out of the honey-room, and keep them out.

HONEY FROM APPLE-BLOSSOM—THE COLOR AND QUALITY.

On page 403, GLEANINGS for June 15, Mr. J. E. Pond, Jr., says he has taken some fine apple-bloom honey this year. If I had read that statement before this year's apple-blossoms came here, I should have thought they grew different apples in Massachusetts from what we do here. In the spring of 1882 I took about 500 lbs. apple-bloom honey, about equally divided between comb and extracted. It was the blackest and rawest tasting honey I ever saw or tasted—much darker than buckwheat or aster honey. I have a jar of it yet, and it looks like dark molasses. This spring I took over 200 pounds extracted honey from apple-bloom. It is as light colored as white-clover honey, and of mild taste, but not pleasant to me. I don't like it nearly as well as clover or basswood. It had a very strong smell of apple-bloom, so it scented the room for a long time. Can you or any of your readers tell why the honey was dark two years ago, and light from the same source this year? I think the flavor the same this year as in 1882, only not so strong.

E. D. HOWELL.

New Hampton, N. Y., June 23, 1884.

The ants seem to be especially troublesome this season. Can not Prof. Cook, or somebody else, tell us if pyrethrum will not work with them as well as with the smaller insects?—I can not tell why we have these different experiences with apple-bloom. In former years I had decided as you do; but we have sections of honey in our lunch-room now, filled and capped during apple-bloom, that we think equal to any from any source. Is it not likely that, in former years, dandelions, shell-bark hickory, or something similar, was mixed with it?

ALBINOS.

We had our first swarm of bees come off yesterday—nearly a patent pail full. I tell you, we were all tickled. The alsike and white Dutch clover are very nice; my silverhull also. How about those albinos of Mr. Harrington's? If they are a good kind of bee, would you get such a thing for yourself, if you were starting in the bee business?

J. H. KENNEDY.

Williamsburg, Kan., May 24, 1884.

All the albinos we have, friend K., are some raised from an albino queen that I got from one of our Southern friends a few days ago. I can not see that they differ in any respect from ordinary Italians, only they are a trifle lighter in color, perhaps, and on some of them the bands of down have a grayish-white which makes them rather pretty to look at. I should say they were simply Italians—nothing more, nothing less.

MORE ABOUT THE HONEY-DEW, ETC.

Bees did nothing here till about the first of June, owing to cold and wet weather. They are storing honey fast at present from the honey-dew. I have not examined to find the cause of it, but have found it on oak, hickory, walnut, and apple trees, in abundance; but it is not fit to eat; has a very peculiar taste; is of a lead color, and thin.

I started into winter quarters with 41 colonies; came out the first of June with 19, the most of them weak. Some others here lost heavier than I did—some as high as 80. If older bee-men had not suffered as heavily, or heavier, than I did, I think Blasted Hopes would have been the place for me.

Cowden, Ill., June 24, 1884. A. W. SPRACKLEN.

DRONES—EXPENSE OF BOARDING THEM.

The drones are eating almost all of my honey. I have been stopping them out with guards; but when I go to kill them the bees become very angry; and besides, the bees lie out very thick, and mix up with the drones, so I can not kill the drones without killing bees. How do you do it? W. N. PARISH.

Little Rock, Ark., June 17, 1884.

Friend P., the way we do is by dispensing with the drone comb, and making combs built on comb fdn. to take its place.

REPORT FROM SWEET CLOVER.

I will tell you about that little patch of sweet clover (melilot) of mine. It is about one-eighth of an acre, very thick, and 6 feet high; has been covered with bloom and bees since the 5th of May, and the blossoms seem to get thicker every day, and are covered with bees from daylight till dark. I counted eleven on one little spine. My bees have been very backward this spring, and have swarmed but 15 out of 100 colonies to commence with; but the way they are gathering honey now is encouraging. I am using wired frames, and can get the comb built on the wires by putting every other frame with foundation, and waxing the wire well before putting them in. Just try it. I have quit tobacco.

W. G. MCLENDON.

Lake Village, Ark., June 15, 1884.

HOLY-LANDS AND PEA-VINE CLOVER.

My bees are doing finely now; starving-time is about over. I started with 80 stands this year; have sold the rest; lost a few by spring dwindling. Started with 36 last spring; increased to 120 by fall, by natural swarms. I have 5 kinds. The Holy-Land bee beats them all; one young swarm of Holy-Lands last year, when my pea-vine clover was in bloom, weighed 140 lbs. in two weeks, mostly clover honey, and brood. The Holy-Lands made more honey than all the rest. They are easier to handle than my albinos. F. H. BRUNING.

Kent, Iowa, June 21, 1884.

OUR SECTIONS OF 1884.

The 2000 sections, etc., I ordered of you were received yesterday noon all O. K. My son has just finished putting together 1000 sections. He put them together in 9 hours' time. He didn't wet one section, and broke only three. There were 1150 first-class and 50 unusable sections in the first 1000 lot. The second lot is as yet unpacked. Freight charges were 92 cents, which I think was reasonable.

Ligonier, Ind., June 20, 1884. J. C. MISHLER.

Very good, friend M. It is diffcult to make the sections come out right without counting; and as we sell them, counting is out of the question. We have desired to have them overrun, rather than to have any risk of shortage, especially as almost every box would contain a few that are bad. But we hardly dared hope that each box of a thousand contained so many as 1150 first-class sections. Perhaps you are a little better off than a good many of our patrons in this respect.

HOW MUCH ROOM DOES A POUND OF BEES NEED FOR SHIPMENT?

What is the size of your cage in inches, you ship 2 lbs. of bees in? How much candy would it take to do 2 lbs. of bees 5 days? Would not a section box filled with comb do to put water in for bees when preparing them for shipment? W. S. CAUTHEN.

Pleasant Hill, S. C., Apr. 3, 1884.

Friend C., we have found by experiment that it takes a cage about 9 inches long by 4¼ square to hold a pound of bees in very hot weather. Of course, some of the room inside is occupied by the blocks containing the candy and sugar. Two pounds would need about double the amount of room. One pound of bees would need about half a pound of candy and sugar to last them five days. We haven't been using comb in section boxes, because the bees are so apt to bite it loose during their confinement, and then it will rattle about in the cage. When provided with blocks of candy, such as are illustrated in our new edition of the A B C book, they often build a piece of comb *en route*, and sometimes the queen will deposit eggs in it. When we can get them to doing this they are always all right. If we could manage some way to get a bit of comb partially built in the cage just before they start, we should then hit it exactly, for bees, like anybody else, when busily employed in something useful, are much more safe from contingencies then when fretting against confinement or circumstances.

SHADE OR NO SHADE.

I want to ask you one question in regard to my bees. I have them under some fruit-trees, where they are in the shade most of the day. Please tell me whether that is as good a place as out in the sun. My neighbor's bees are throwing out more swarms than mine, and seem to be making more honey.

R. G. THOMAS.

Mt. Vernon, Ind., June 16, 1884.

Friend T., the shade of the apple-trees is an excellent place in the hottest part of the summer; but during the spring months, or when we have cool days, the heat of the sun is an advantage. Sunshine is also an advantage at both morning and evening, and this is why we have settled down on the grapevines for shade. They can be made so as to shade the hives when they need shading, and at no other time, or, at least, pretty nearly so. Very likely your neighbor's bees swarmed sooner than yours, because they had more sunshine; that is, if such is really the case.

BEE-BREAD, OR POLLEN, NOT A REQUISITE FOR WINTERING.

Does your A B C book give any recipe for feeding bees with any thing that will make bread? We lost a hive, which died for the want of bee-bread, two years ago. They were in one of Mrs. Cotton's hives; there was over 50 lbs. of honey in the hive at the time. I don't think they died from exposure, as they wintered on the stand the year before all right. My father bought the hive, and put a native stock into it. We have not had any bees since. If there is any way to get over this, and any profit in the business in this section of the country, I would not mind some expenso, as well as labor.

THOS. J. HOXIE.

Carolina, Washington Co., R. I., Feb. 29, 1884.

Friend H., you are entirely mistaken, I think. Bees not only get along without any pollen at all during the winter season, but it is pretty well settled now that they are far better off without it.

GETTING SURPLUS HONEY FROM QUEENLESS COLONIES.

What effect will the unqueening of a colony just previous to or during the main honey-flow have on the honey-crop? While the bees are rearing another queen, will they lie idle, or will they continue to work as well as with a queen? In Doolittle's appendix to A B C, note 80, he says, "Both Elwood and Hetherington now take away the queen from their stocks at work in boxes during the basswood-bloom, and claim that it is the correct way to get box honey with no swarms. I don't agree, but may some time."

I is now nearly four years since Mr. D. wrote this. Has he agreed yet? You raise and sell many queens during a year, and have undoubtedly unqueened many a colony in all seasons; have you noticed what the effect is on the honey-crop of such colonies? E. CLOE,

Cumminsville, Ohio.

Friend C., we should be very glad indeed to hear from our friends mentioned above, in regard to this matter of making a colony queenless just at the right point during the honey-flow. My experience has always been, that a colony with a queen works better than one without; however, if the hive be full of brood in all stages, it does not make so much difference. Sometimes the bees from a hive that has just cast a natural swarm will work right along nicely in the boxes. This would hardly be a fair sample, however, as honey-gatherers mostly go off with the swarm. Will friend Doolittle please give us his opinion of the matter up to the present time?

EXTRACTING HONEY THAT HAS BEEN IN COMBS OVER WINTER.

I am trying to extract honey that was taken out last fall; and if you know of any process by which to do it effectually, I should be pleased to try it. I have a way of my own; and if successful, I will report to you if you desire it. F. M. NORWOOD.

Whiting, Iowa, May 19, 1884.

It is a little difficult, friend N., unless you have weather so warm that the thick honey is pretty thoroughly softened up. We shall be glad to know how you manage to succeed with it.

FRIEND BROOKS' TROUBLES ABOUT ANTS.

The bell-glasses came in good condition. I have them on the hives, and full of bees. Clover is blooming, and I expect a good yield again this season. I am in trouble, and come to you for relief. I have built a store-room, in which to sell my honey, and the ants are about to take me. I have my counter-legs in pans of water, but my shelving sits on the floor. I can't place any thing on the shelving, but what is covered with ants. Can you, or or any of your readers, tell me of any thing I can use to drive them away—something that I can scatter around the walls or on the floor, the smell of which they would not like? JOS. M. BROOKS.

Columbus, Ind., May 24, 1884.

Friend B., I do not know any sure remedy, except the one you mention—having your honey on a table with the legs in dishes of water. Camphor gum has been proposed. I presume it does not answer the purpose, as the matter is still discussed every little while.

BRIDGING COMBS TOGETHER WITH BITS OF COMB.

I received your Simplicity hives in good time. I commenced to transfer, feeling that I could do so without any trouble, and I did get through with it very well. The bees commenced working at once, but the little fellows do too much. They make the frames fast together, and to the sides of the hives, if they are placed close together, and if very far apart, they will build pieces of new comb between and against the combs in the frames. If I should take out the frames every day, I should have to cut them apart. If you can tell me what to do in this case, or give me any information on this point, it will be received thankfully.

J. T. FARNSWORTH.

Volcano Junction, W. Va., June 9, 1884.

Friend F., the matter you mention is somewhat of a trouble. When frames of foundation are first built out, before the cells have got bulged so as to run against their neighbors, they work nicely and beautifully; but if the brood-nest gets crowded, the bees fill up all the little interstices, then we have the state of affairs you speak of. After geting one comb out, we can pull the next one back and tear loose these attachments; but when we come to shut the hive up, however, these same projecting points are likely to pinch or crowd them into cells they can never back out of, if you are not a little careful. If you give more space they bulge the combs more, and then we have room for only nine combs instead of ten, which is a bad state of affairs. By dividing colonies so as to keep them tolerably weak, we can get rid of a great part of this difficulty. But where one works for section honey, I do not know any other way than to prune off the surplus wax, and work it up. Giving each colony a frame or two of foundation to draw out as fast as they require room will do very much to discourage this bridging business.

HONEY FROM FOREST-LEAVES, AGAIN; A NEW FEATURE IN THE HONEY BUSINESS DURING THE YEAR 1884.

The spring flow of honey, closing with fruit-bloom, was, to a great extent, a failure, owing to the unfavorable conditions of the weather. But, immediately after fruit-bloom, instead of the usual two weeks of dearth intervening the clover season, a remarkably heavy flow from the forest timber has taken place, lasting until clover was fairly in bloom. Colonies in fair condition have filled their brood-chambers, and their supers contain from 10 to 25 lbs. honey, while clover can not be said to be fully out yet, although furnishing honey heavily for the past few days. The honey-dew from the forest closed June 9th. This was at the approach of a heavy rain; since the rain, clover is yielding largely, with no indications of a return of the forest-dew.

Inclosed find a leaf of the white elm, covered with dead spots. These spots were caused by the granulation of the honey upon the leaves. I could lift with my knife, from the leaves, flakes of granulated honey, in many cases over a quarter of an inch in diameter, as the spots on the leaf will show.

The basswood bloom will not be an average one in my locality, as the flower, leaf, and blossom-stem have been injured by the aphides, or some other insect, yet there is a sufficient amount left to furnish a fair flow, if the atmospheric conditions are favorable. R. B. ROBBINS.

Bloomdale, O., June 16, 1884.

Friend R., this is certainly a new feature, but I am not sure that it is a favorable one. Of course, the honey-dew has been a remarkable help to brood-rearing, and I think I never saw bees prosper better than they have while storing and building combs from this dark honey; but I am afraid the aphides will damage the basswood-bloom, and I am also afraid this honey will remain stored in the combs, and we shall have losses in wintering in consequence. Even to-day, June 19, I find combs bulged with dark honey which the boys say came in yesterday. Combs are beautifully snow-white, but the honey which fills the cells has a sucpicious dark amber-colored brilliancy. It seems to be a wide-spread phenomenon, any way. If bees should all winter that have been brought into existence by this beautiful saccharine flow, what would bee culture be in another season?

LETTING THE HONEY CROWD OUT THE BROOD—A FLORIDA REPORT.

Please answer me the following questions: My hives are 1½-story Simplicity. I had no surplus arrangement on top or below; frames covered with straw mat; two outside frames *all* honey; next two *very* little brood. All the rest of frames only a little brood near bottom-bar. If they had had room on top, would their brood-circle have been larger? Will bees having access to the whole of a two-story hive make a larger brood-circle than they will in a 1½-story hive? Do you often have frames filled with nearly all brood?

I hived a swarm in March; in 47 days they cast a fine swarm; that swarm filled 10 frames, and capped all the honey in 12 days; during the next 12 days, I took 4 frames of honey and 6 frames of brood from them, giving them empty frames which were all filled at the end of the last 12 days, and they had started queen-cells. I took the queen-cells from them to use in queenless colonies; the honey-yield ceased, and they did not start more cells. They are now the finest swarm I have.

Who can tell a "bigger one"? I used no foundation. W. F. CLOUGH.

Sarasota, Florida, May 6, 1884.

To be sure, friend C., having access to the whole upper story would enlarge the brood-nest below. Where we manage right, and do not let the honey crowd the queen, we often have frames of brood almost entire from top to bottom and from side to side. It seems to me, your own experiment narrated in the latter part of your letter tells what may be done by judicious manipulation.

REARING QUEENS FOR MARKET.

Is there a good market for Italian queens? Which is the harder—to produce them or to sell them? I have thoughts of raising queens for sale.

Waterboro, Me., Apr. 4, 1884. C. W. COSTELLOW.

Friend C., like almost all other produce, there is an excellent demand for queens a little in advance of the season. Along the latter part of June and July, almost everybody has a surplus of queens; but in April and May the demand is almost always beyond the supply. If you furnish good honest queens, and have them ready to ship by the very next mail after the order reaches you, you will in time be full of business; for the best advertisement in the world that anybody ever had is honest goods forwarded promptly. Those who have earned a reputation by years of careful hard work, usually have all the orders they want to fill, the season through.

SMOKING BEES — A CAUTION.

Is there any way or sign from the bee by which I can tell when they are smoked enough?

Farmville, Va., June 17, 1884. S. W. PAULETT.

Yes, sir, we can tell when the bees are smoked enough. In the first place, during the height of the honey-flow they seldom need any smoke; in fact, they are better off without it, unless they are in the way so as to hinder some necessary operation; then we drive them with a very little. When we first open the hive, if they are inclined to show fight, give them just a single puff; and if they retreat down among the combs, that is all they need. Smoke them just enough to make them cease to be aggressive; and if they recover after a little, and show symptoms of fight again, just drive them back, and no more. Smoking bees when they are quiet and well behaved, and going on with their regular work, is an outrage on good nature, and the one who is guilty ought to have smoke blown in his own eyes until he goes down on his knees and begs for mercy.

SIDE STORING AND TOP STORING.

In answer to an inquiry to friend Elwood, he writes as follows:

We formerly used side boxes quite extensively in connection with top boxes, but for a few years back we have used none but top boxes, and with quite as good results in both quantity and quality of honey, while we have made quite a saving in labor. In warmer localities, the result might be different from our experience in this elevated region, with a comparatively cool summer climate.

P. H. ELWOOD.

Starkville, N. Y., March 28, 1884.

This is quite an important item; for, if I am correct, the crop can be secured from the top only, with quite a little less expense and labor; and friend E., with his very large experience in the matter, is probably well qualified to decide in regard to it.

HOT-WEATHER TROUBLES.

I am in somewhat of a trouble with our bees. Some of the hives are filled, and we have placed other empty ones on top, and offered every inducement to the bees to take possession; but instead of doing so they cover the outside of the filled hive, and seem to say, "Take our honey if you can." I do not mind being stung, if we could get them in the other hive. Can you in any way help me out of my trouble? If so, you will confer a great kindness on an "inexperienced." We have your A B C, Mr. Gilbert has studied it thoroughly, but the bees seem determined to have their own way this time. By following the advice of your book we have had no trouble until now. MRS. W. P. GILBERT.

Clifton, Texas, June 23, 1884.

My friend, I am inclined to think your bees have clustered out over the hive, only because of the hot weather; and may be there is no honey being yielded is why they cluster idly on the outside. In any case, you can easily draw them off with smoke, and make your investigations. Very likely they would be inclined to boss things if they could; but you must teach them that you are master, or, if you choose, *mistress*.

FEEDING BEES YEAST TO PREVENT ROBBING.

The plan to stop robbing with yeast, as mentioned in GLEANINGS, page 418, is quite an old one. Where I lived in Germany it is an old custom, that, when one man's bees rob those of another, the owner of the offending colony is requested to put his bees away in a dark cool cellar. In case of refusal, yeast may be resorted to. On account of its cruel effects, I have myself never tried it, nor have I seen it done; but I have been told by expert bee-keepers, those who had witnessed such cases with destructive effects. The operation is as follows: At the proper time the offended bees are removed; but the robbers are induced to come in. The honey prepared with yeast is given access to the robbers. At the very time the yeast commences working, most of the bees filled thus are supposed to swell, and consequently die before they reach home, as I am told that the ground, or bee-line, between the two places had been strewn with such swollen bees. Such as reach home are generally safe, as they can relieve themselves of their burden, unlike the more unfortunate, overcome in the air, as it is their nature to hold on to what they have. In regard to what consequences and trouble direct feeding with yeast would have, would depend on the quantity given, and more or less running of such feed would be the consequence, until the force of the yeast would expend itself; but I think it not reasonable to suppose that the other honey of the hive would be affected, and set to running also.

C. H. LUTTGENS.

Philadelphia, Pa., June 27, 1884.

Thank you, friend L.; but I am still inclined to think that, with movable combs and modern bee culture, no very great harm could be done by feeding the robbers yeast and honey.

A GOOD REPORT FROM THE HEDDON SYSTEM.

I don't want you to condemn Heddon's method of getting comb honey, as I have tried it this season, and it beats your wide frames and your cases all to pieces. Now, as to bees putting more propolis on the sections in Heddon's cases, they do not daub them up nearly as bad as they do in the wide frames. The bees will go to work a great deal better than they will in the wide frames.

Orangeville, O., June 30, 1884. W. J. APTHORP.

Glad to hear it, friend A. It seems friend Elwood, on the opposite column, is inclined to much the same opinion. I confess I should be very glad indeed to dispense with side-storing if we lose nothing by so doing.

STANDS FOR HIVES — STAKES VS. HALF-BRICKS.

In revising your A B C book, instead of using four half-bricks to set the hives on, which, I think, was from a suggestion of mine, advise four pegs driven into the ground about a foot. They do not get misplaced as do the bats, when for any cause the hive is removed, nor do they settle out of level in wet weather; and, if made of some durable timber, will last long enough to not be objectionable in that way.

WATER INSTEAD OF STARCH FOR ROLLING FDN.

In rolling fdn. I put the wax sheets in a vat of water, warm enough to keep the wax the right temperature, and it matters very little about the starch. Sometimes the water runs in the starch-pan until it is all only about water, and we run right along for hours in that way. G. W. GATES.

Bartlett, Tenn., May 21, 1884.

It is a fact, friend G., that the frost makes mischief with our half-bricks, and perhaps a stake driven in the ground about a foot would be better on that account. I should object to the stake, however, because it would rot—at least, we don't have any stakes around here that don't rot. The bricks have to be leveled up every spring; but after that they are all right.—We used water in the same way, friend G., but we think we get along faster by keeping the rolls pretty well lubricated with thick starch.

EARLY SWARMING IN THE NORTHERN STATES.

I see an item in your magazine for June 1, written by Wm. F. Geiger, from Beatty, Westmoreland Co., Pa., saying he had a swarm of bees the 17th of May, and wanted to hear from anybody who could beat that, to come to the front. Now I will give you my experience. I started in last fall with four colonies of Italian bees. I wintered them on their summer stands, packed in chaff, and I don't think I lost a dozen bees during the winter. My first swarm came out May 10th; my next was one week later, and so on until I had five swarms in May. The first of June I had another swarm come out. I hived them and the next day there was another came out of the same hive. I put the two together and they are doing nicely. If there is any bee-keeper who can beat my record, let him come to the front and I will give in. E. M. TUTTLE.

Eagleville, O., June 19, 1884.

ARTIFICIAL COMB HONEY.

A short time since, in a lecture before the Detroit Scientific Association, on "Adulterations of Food," the lecturer stated that "artificial honey-comb had been manufactured, and filled with glucose in so neat a manner as to deceive even the bees themselves." Has any one succeeded in making artificial honey-comb? And if it were so, is it possible to fill the comb with glucose (or honey, for that matter) so as to deceive a bee-keeper as blind as old Huber? E. F. ALBRIGHT.

Detroit, Mich., April 20, 1884.

Friend A., the whole thing is an outrageous falsehood. No such thing has ever been produced. The editor of the *A. B. J.*, with commendable zeal, followed up the foul slander, and made the perpetrator swallow his own words, several years ago; but the newspapers keep harping on it, and show a zeal in keeping the falsehood going, in spite of the many exposures it has had, that would better be devoted to some worthier purpose.

GRANULATION NOT NECESSARILY A TEST OF PURE HONEY.

I send you by mail a small block of white willow wood, containing a small vial of currant jelly which has granulated as thoroughly and evenly as honey. Of course, no one will use currant jelly to adulterate honey; but probably some other syrup which *could* be used for that purpose might granulate also. I fear this will damage a great deal of talk about the *only sure test* of the purity of extracted honey.

WOOD OF THE WHITE WILLOW FOR SECTIONS.

By the way, I think the wood of the white willow will make a good substitute for basswood in the manufacture of sections. It can be grown in a few years, of sufficient size for the purpose. When dry it is very good fuel. It furnishes our earliest honey and pollen, and is our most useful tree for shelter-belts on the prairie. BURDETT HASSETT.

Howard Center, Iowa, March 18, 1884.

Friend H., I have been aware that other substances than honey will candy much in the way honey does; but for all that, I think the candying property as it is found in the market a very sure test. — I noticed the beautiful appearance of the white willow some years ago, and I had some of it worked out as a sample. It is whiter and handsomer than basswood, but the wood is seldom large enough, and straight enough grain for one-piece sections. No doubt a nice article can be furnished, by making a selection of the willows we have, and growing them purposely for timber for sections. I am glad you have mentioned it; for the way the basswood is being taken off and out of our forests, is certainly a sad thing for all who are interested in the honey-flow. We *must* plant basswoods and willows both, if we are going to keep our industry progressing right along at the rate it has been going.

THE CROSS BETWEEN THE HOLY-LANDS AND ITALIANS.

Holy-Lands are a very hardy bee, standing our cold winters better than the native blacks or Italians, so far as I have seen. I was pleased with the remarks of friend J. H. Schrock, of Goshen, Indiana, as I have been thinking for some time of crossing the two breeds. I know the Holy-Lands are a little cross, but the best bees to breed I ever saw, and to keep their combs filled with brood, and are splendid honey-gatherers at the same time. I should like to hear from others having crosses—Italian queens mated with Holy-Land drones. I think that would make the bees quieter than Holy-Land queens mated with Italian drones; but that is only my opinion, never having had any experience.

Edgerton, Kansas. J. C. BALCH.

A NEW HONEY-PLANT.

Our greatest honey-plant is the tupelo gum. Some years ago while it was in bloom, I had a hive on scales, and one day it pulled down 15½ lbs. This, however, does not last long. The honey is as white as clover honey, and very mild in taste. If thrown out right away, I doubt if it would keep, as it is very thin, running almost like water. When we extract it, as we do sometimes for home use, we ripen it on the stove. Some time, when I am less busy than at present, I will give your readers the benefit of 19 years' experience in bee-keeping in the Yazoo Valley — a section that will some day become as noted for its bees and honey as it now is for its fertile land and unequaled timber. W. H. MORGAN,

Sheppardtown, Miss., Feb. 7, 1884.

REPORTS ENCOURAGING.

FROM 1 TO 8, IN ONE SEASON.

JUNE 1, 1883, I bought one hive of Italian bees, paying for them $7.00. During the season, increased to 8 by artificial and natural swarming. I also took from 65 to 75 lbs. of surplus honey. My bees all came through the winter nicely. I wintered on summer stands, with straw covered over the hives. At this date I have no swarms, but my colonies are very strong, and are storing honey rapidly from white clover. There were several apple swarms this season in this vicinity from black bees, and also white-clover swarms from the same; but as yet I have not heard of an Italian swarm. The blacks, as a rule, are not storing as much honey as Italians.

Neeper, Mo., June 13, 1884. JOHN PRICKETT.

TEXAS AND THE HORSEMINT.

Oceans of horsemint. Myriads of bees. Tons of honey. J. E. LAY.

Hallettsville, Texas, June 17, 1884.

FROM 8 TO 24, AND 350 LBS. OF COMB HONEY.

Eight colonies—4 strong and 4 weak; increased to 24 by natural swarming; got 350 lbs. of comb honey; went into winter quarters with 22. To-day, May 1, 1884, 16 colonies, some fair and some very weak, but they are just booming now. I got my first two swarms May 16, and 3 more since. I am far ahead of any one in this locality this year, so far. I will report this fall again.

Crestline, O., May 1, 1884. ABRAHAM KOONTZ.

A GOOD REPORT FROM MISSOURI.

We have to order more heavily of you than we had any expectations of in the spring. We have had a boom now for three weeks past that we did not expect, for it had never occurred before. Our honey-flow generally comes mostly in August; but this year we have white clover three miles away, to the amount of over 300 acres, and are storing surplus honey, while other years we have always had to depend on the sugar-barrel through June.

W. O. & G. A. BEECH.

Quitman, Mo., June 23, 1884.

15C. FOR EXTRACTED, AND 20 C. FOR COMB HONEY.

I packed 35 colonies on their summer stands last fall, and all came through the winter as bright as a new dollar, except one that was queenless. I united it with another, and sold one, then traded for two colonies of black bees in gums, so I have 35 to commence the season with. I expect to work the most of them for extracted honey, as I can sell it quicker at 15 cts. a pound than I can comb honey at 20 c. Bees have been working for two or three days on white clover and poplar, and to-day they are bringing in honey at a rate that would please any bee-keeper. J. R. CROOKS, 35.

Keiths, O., June 3, 1884.

THE "BOSS" BEES.

My bees are doing well. I have 12 young swarms, from that queen I got of you, and they have robbed all the blacks within a mile of me. They are the boss bees, and they wintered better than the blacks or hybrids with me. JESSE ROBERTS.

Centerville, Wis., May 23, 1884.

EARLY SWARMING IN THE NORTHERN STATES.

Friend Geiger, on page 385, stated he had a swarm of bees on the 17th of May. I will state that one of my neighbors had one the first day of May, and I had one on the fourth, and only one since, and that was the first day of June, and just one week from the time they were put into the hive—a Simplicity hive with 7 frames and 2 wide frames, no fdn., except about ½ in. wide on each frame, and they filled all 7 frames with comb, and started to pull out the fdn. in the sections on the side; but the rest of my colonies have not done any thing to compare with them. I think they are busy bees. JOSIAH EASTBURN.

Fallsington, Pa.

NOTES AND QUERIES.

DO BEES VARY IN SIZE?

I HAVE tried the drone-trap, and my bees can't get through it, or, at least, about one-half can't, and they went up in the top of the trap, and could not get out, and I had to open the trap and let them out. My bees are all raised on new comb, and must be larger than the average bee. J. W. MARTIN.

Greenwood, Va., June 21, 1884.

[The above would seem to indicate that they do, and that we would get larger bees where the combs are worked out from comb fdn. than those built naturally. This may be a mistake; but one thing I do know is, that bees will be smaller where the comb falls down so as to cramp them when just at the proper age. I have seen a hive send out hundreds of lilliputians by just such an accident.]

DESTROYING DRONE-BROOD.

Will you please inform me, if best to destroy drones out of hives before hatching, what will the result be by doing so? MRS. H. E. BURDICK.

Skidmore, Mo., June 26, 1884.

[Well, my friend, I would take a honey-knife and slice their heads off, then set the comb back in the hive, and in a little while the bees will carry out the decapitated larvæ, and restore the comb; but if you do not look out, some more drones will be started in the empty cells. Do not undertake to slice the heads off from drone-brood while extracting, or you may injure the flavor of your honey. After the honey is all thrown out, it can be done just before you put the comb back into the hive.]

EARLY SWARMING IN THE NORTH.

I saw in GLEANINGS of June 1st an article written by Wm. F. Geiger, that he had one swarm of bees come out the 17th of May. I think he is away off on being the first one in the season, for I had one come out the 8th of May, and another the 18th from the same hive. My hive is a Gallup hive, straw packed. A. D. CHITTENDEN.

Geneva Lake, Wis., June 13, 1884.

CLIPPING QUEENS' WINGS.

Please state in GLEANINGS if clipping a queen injures her commercial value. J. W. CRENSHAW.

Versailles, Ky., June 17, 1884.

[As a rule, the commercial value of a queen is impaired by having her wing clipped, I believe. While some would care nothing about it, there are so many who object, that we have discontinued clipping queens entirely. If the purchaser wants to clip his own queens, he can do so.]

My Italians are doing well, the queen laying rapidly; the bees are mild and peaceable, and I think they must have come from "Conny's hive," so you must fork over the money to her,

Antoine, Ark. J. B. ROUNTREE.

IS AILANTHUS HONEY POISON?

I would like to ask you if the honey gathered from ailanthus-trees is poisonous. There are a number of trees of that variety near where my bees are kept, and they are at work on them by the thousands. PHILIP H. LUCAS.

Mount Vernon, N. Y., June 25, 1884.

[There has been some talk of the above honey poisoning the bees, but I am inclined to think it is a mistake, and I have never heard that it impaired the quality of honey for table use.]

REMINDERY.

I SUPPOSE a great lot of the friends are in the midst of basswood bloom. At present it does not yield very much here. See that your bees have plenty of room, but do not be in too great haste about dividing, as we did a month ago. Whatever you do, keep your bees strong, and able to protect themselves from robbers, and provide them with abundant stores. Of course, in many localities the honey-yield will be much the same as it was in June. Do not let the weeds or grass grow in front of the entrances of the hives. Be sure that every colony has a fertile queen. Do not let any thing go at slip-shod, or have any guesswork. Have your hives stand square to the points of the compass, and have them leveled up where they are intended to be level. To make queen-rearing a part of your business, be sure that every hive at all times contains unsealed brood, whether they have a queen or only a queen-cell. If honey stops coming, keep things lively by judicious feeding. We can raise queens and make it pay, if the weather is so dry the bees are not gathering a drop of honey. When your honey-yield begins to close up, be careful about having too many unfilled sections lying over for another season. The same with empty frames, or frames filled with fdn. Give the bees more room just as fast as they need it, but not much faster. Do not board a lot of useless drones when you do not want drones. Make your bees pay expenses. Do not have honey lying around doing nobody any good. Clear up all the remnants. Fix it up nice, and get it off your hands. If honey is left at the stores to be sold on commission, keep an eye on it. Friend Hutchinson has told you all about it. If you sell hives and fixtures, have them ready so that you can set them right into your customer's wagon just the minute he drives up. Put up a neat little sign near the gate; and when you get a customer, treat him in a neighborly way, so that he will like to come again. Be up in the morning; and after you get up, keep so busy that Satan will never find any mischief for you to do. Set an example to the neighborhood round about you, and,—

Whatsoever ye do, in word or deed, do it all in the name of the Lord Jesus.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, JULY 1, 1884.

Whatsoever ye do in word or deed, do all in the name of the Lord Jesus.—COL. 3: 17.

FOUNDATION-MILLS AND COMB FOUNDATION.

As we are now ahead on both of these, we will, until further notice, make a discount of 10 per cent from our printed list; and we can fill any order, with but few exceptions, by next train.

IMPROVEMENTS ON FOOT-POWER BUZZ-SAWS.

OUR foot-power buzz-saws are now all made with an extra mandrel, so that we can change from ripsaw to cut-off without unscrewing the saw from the mandrel at all. Price, as heretofore, $35.00; or with small scroll attachment, $40.00. Special discount is made for cash with order.

THE editor of the *A. B. J.* sends us a very pretty little book, entitled "Bee-keepers' Convention Handbook." It contains all information necessary in regard to starting bee-keepers' conventions, and, so far as I know, the book seems to cover the whole ground of parliamentary rules especially required in associations of every kind. Price 50 cts. We can mail them on application.

OUR PRICE LIST.

WE have printed lists of names to whom we send our price list once or twice a year, amounting to something like 200,000. Now, if you want your name in this list, provided it is not already there, just indicate it when writing, or drop us a postal card, and we will see that your price list goes regularly, about as often as we get out one, with any very great changes in it.

HONEY FROM THE WILLOW.

FRIEND J. C. Towson, of New Madrid, Mo., sends us a sample of willow honey. The color is fine, and the flavor very nice, only it has a little aromatic taste that savors of the willow bark or willow twigs when one happens to chew them. Friend T. has about 1200 lbs. of the same. On the whole, I should say the honey was pretty nearly equal to clover and basswood.

BE CAREFUL HOW YOU HANDLE POSTAGE-STAMPS

OUR Clerks are greatly annoyed by postage-stamps sticking fast to letters. Sometimes the letters have to be soaked in water for an hour or two; and if the ink is poor, we may be unable to ever read it at all. When you send postage-stamps in a letter, wrap them in a separate piece of paper, and be careful about handling them when your fingers are damp or sweaty.

WE have to-day 6920 subscribers. You see, we have not quite made the 7000 yet; but as a good many subscriptions expire with the July number, and as the honey season is, with a good many, mostly over by that time, we usually have quite a dropping-off; notwithstanding, we have gained ten, as you see, for which I at least am thankful. I thank you, my friends, for your support and patronage.

THIS issue has been delayed by the crowd for our revised and enlarged A B C book. They are done now, and ready to mail; 20 pages have been added, and over 50 new illustrations, some of them quite expensive ones. Almost every subject that has been brought up in the last year has been noticed. The book as it is now is a large and handsome volume for the price.

IN our last issue we gave the price of the combustibles for our ten-cent balloons at 3 cents each. We find we can furnish them, however, for 1 cent each. If wanted by mail, postage and packing will be 2 cts. on each single one, but only 5 cts. on ten; that is, ten combustibles can be sent postpaid for only 15 cts.; and if you are careful with the little balloon you can send it up ten times with these.

THE hexagonal apiary (or five apiaries combined in one, rather) is now full, and we have nearly 500 colonies devoted to supplying our customers with queens, while Neighbor H. has toward 300 more. Since we have been sending out queens taken directly from our own hives, we have had much less trouble in mailing them than where they have been purchased at a distance. Another thing, with the great number of drones that such apiaries send out, a queen that turns out hybrid is almost unknown; therefore, as I told you in the spring, I think if I were to have my choice I would prefer a dollar queen raised from these apiaries to a tested queen bought of some one who reared her last summer.

REDUCTION IN PRICES.

THE five-gallon iron-jacket honey-cans are reduced to 58 cts, and the ten-gallon to 94 cts. Discount as heretofore, in lots of 10 or 100. The paper boxes for one-pound sections are getting to be so much in demand that we are enabled to give better figures, as follows: Package of 25, 35 cents; package of 100, $1.20; 1000, $11.00; 10,000, $100. If wanted by mail, 1 cent each extra. Colored lithographic labels for putting on the sides, two kinds, one for each side, $3.50 per 1000. A package of 25, labeled on both sides, as above, 60c. By mail, 30c more. Broom-holders, formerly sold on the 10-cent counter, are now on the 5-cent counter. Wire-ring pot-cleaner, reduced from 15 cts. to 10 cts. The dish-rinsing pans, retinned, of which we have sold so many, are all reduced one counter; that is, the 10-quart pan on the 50-cent counter, is now but 35 cts., and so on all the way down.

IMPORTED QUEENS.

Our first importation for the season was delayed somewhere by somebody's half-heartedness, I presume, and all of the queens starved to death but four. The express charges on the lot were about $24.00; so we certainly did not make any very big speculation on the bees. The next lot of 50 we expect very soon; but the delay has obliged us to disappoint many customers. Friend Hutchinson proposes to begin *now* to get ready for the next season, and that is just what we have been doing, for all these queens were ordered last fall, and we told friend Bianconcini to send them just as soon as he could get yeung queens to laying. It looks as if the only way to have them in time to fill orders were to import them in the fall, and I think we will try wintering from 100 to 200 this next season, in order that we may be prompt on imported queens as well as other things.

A WORD TO THOSE WHO GET OUT PRICE LISTS.

IT always makes trouble to raise prices on things; but nobody feels bad when you charge him less than he expected to pay. I once saw a street auctioneer raise quite an excitement by selling goods for a certain price, and when the purchaser came to hand over the money he would reply, "Well, friends, I think I can afford that a little less, after all, so here is ten cents back again." Of course it was a ruse, but it took wonderfully. Now, friends, why not, in fixing our prices, use a little more care in not getting them too low? I know, where there is great competition, the temptation is often strong to make startling offers. Will it not be better (and I mean this advice for myself) to put a good fair price on our things, furnish good honest goods, and then, if we discover there is a margin, we can do a little better than we had agreed to do, and this always pleases people; in fact, it almost always pleases me to see prices lower than I expected, and it almost always vexes me to be charged more than I had expected to pay.

SOME OF THE DIFFICULTIES YOU WILL MEET IN STARTING IN WITH ODD-SIZED HIVES, FRAMES, AND SECTIONS.

YOU will have to have your hives made to order, and stand a great chance of getting them wrong. If you have iron gauge-frames made for nailing them up, you will find it a difficult matter indeed to get your gauge-frames accurate. If you want a comb-bucket to carry your frames, it will have to be made to order. You can not order regular boxes of fdn. (which may be easily shipped by first train), for the fdn. has to be cut to order, and a box has to be made expressly for it. If you want your frames wired, a special machine has to be made to drill them and prepare them. You have got to have an odd-sized foundation-fastener. An extractor will have to be made to order. Division-boards and mats or enamel cloth must be made to order. You can not use the glass already in stock, but will have to have it cut to order, and you will usually have to take a box of 50 feet, even though you do not want half that much. In ordering sections, you can seldom get them promptly. If you want a few more sections, frames, or upper stories, etc., you have the same difficulties to contend with; you can not use regular shipping-crates, but some will have to be made at an increased expense, and an increased chance of not being a fit. Spacing-boards won't fit unless made to order. Frames of brood won't go into your hives without transferring. Transferring-wires won't fit, unless made to order. You can not sell goods to other people, because they are out of joint with what other folks use. If you want to buy machinery, it must be made expressly to match every thing of yours that is different from what is already in the market. Now, the only reason for saddling yourself with all these troubles is generally only a notion or whim of your own. If you think I have overestimated it, go ahead your own way a while until you are satisfied.

SENDING GOODS BY EXPRESS, WITHOUT PERMISSION TO DO SO.

I SHALL have to remind the friends again, to be careful in this matter. We frequently have something of as little value as a broken casting returned to us, or sent us by express; and where the distance is great, the charges are often 50 or 75 cents. Now, of course, we can refuse to take them from the express office; but the express company would then have to lose, unless it could be collected from the shipper. Will it not be better to lay it down as a rule, that it is hardly fair to express any thing to anybody without first getting his consent or approval? This, of course, applies to returning goods that may have been sent you by mistake, or that you did not want. By far the kinder and better way will be to notify the shipper that said goods are subject to his order.

CIRCULARS RECEIVED.

I. T. Cornell, Lenox, Ia., sends a 16 page circular, profusely illustrated.

T. Pierce, Gansevoort, N. Y., sends out a 4-page circular—supplies generally.

W. G. Russell, Millbrook, Ont., Can., sends us a 12 page circular of supplies in general.

C. M. Morgan, Mabel, Minn., sends us a one-page circular. His specialty seems to be hives.

Kennedy & Leahy, Higginsville, Mo., send us a 4 page circular. Hives and sections a specialty.

E. M. Storer, Red Cloud, Neb., sends us a price list of queens, on a postal card.

H. B. Harrington, Medina, O., sends out a circular of bees and queens; also farm implements.

J. H. Woodworth & Co., West Williamsfield, O., send a 4-page circular of hives and supplies.

Marcus Holtz, Tiffin, O., sends out a 4-page circular. His specalty is L. hives, and supplies for same.

J. S. Holcombe & Co., Lambertville, N. J., send us a 4-page circular on poultry, with queen-bees mentioned on last page.

N. E. Doane, Pipestone, Mich., sends out a circular of "Heddon's new Langstroth hives, and surplus honey-cases;" 2 pages.

C. P. Bish, Petrolia, Pa., sends out a very pretty 12-page circular, containing a picture of a chaff hive with a Simplicity upper story.

L. H. Bashaw & Sons, East Rochester, O., send us a 4-page circular of hives and implements. They also deal largely in seeds of all kinds.

Our enterprising commission merchant, Jerome Twichell, Kansas City, Mo., sends out a very neat 12-page circular containing suggestions to bee-keepers for preparing packages for shipping honey.

J. W. Clark, Moniteau, Mo., sends us an 8-page ciucular. Friend C. also makes dulcimers. We do not learn whether these are to make the bees swarm, or to make them stop swarming. We think very likely they work in somewhere.

J. W. Eckman, Richmond, Texas, sends us a one-page circular of bees and comb fdn. Touching patent hives, friend Eckman says, in moderately plain English: "Do not be humbugged with moth-proof clap-trap patent hives. All they are fit for is for hens' nests. The much-dreaded moth-worm has never killed a swarm of bees yet."

The National Bee-hive Co., High Point, N. C., send an 8-page circular; but as they seem to have an additional price tacked on to their hives for an "individual right," it seems to me they are a little behind the times, if they will excuse the liberty I take. Their hive may be tiptop; but that way of doing business seems to get one into bad company.

Quite a number have sent us the circular of the Golden bee-hive. The proprietors may have a patent on this hive, or some portion of it. I really do not think it worth while to make inquiries; but the plan on which they have done business is such that I would earnestly advise our readers to have nothing to do with it. The Golden bee-hive has been shown up at different times during the past ten years, and it has been used mainly as a base for swindlers, as far as it has come to my knowledge. There is no sort of necessity for using any thing having a patent on it, to succeed in bee culture.

DIED.

In Greenville, Miss., at the residence of her sister, on the 22d inst., Orvile Blanton, wife of Dr. J. S. Walker, and daughter of Dr. O. M. and Mrs. M. R. Blanton, in her 27th year.

This notice chronicles the death of one rarely gifted in heart, mind, and person. Mrs. Walker's cheerful, happy disposition, was illuminated by a brightness of intellect, a quick sympathy, that constituted a household idol. Young and beautiful, loving and loved,

> "Death lies on her like an untimely frost,
> Upon the sweetest flower of all the field."

All the mitigation of grief that can flow from the sympathy of friends, is offered to her sorrowing and woe-stricken husband, orphans, parents, and sisters. There is a truer and securer consolation that will come to them: the memory that her virtues were founded upon Christian faith and resignation.

KIND WORDS FROM OUR CUSTOMERS.

The box of goods by mail received this time all right; they all came through in good condition. The dozen lead-pencils I got of you for 10 cts. would cost at the stores 50 cts. I am well pleased with the hack-saw. L. C. SEATON.

Ellensburgh, Wash. Ter., March 11, 1884.

GIVING PRICES ON THINGS WE DESCRIBE, ETC.

In your last issue you say you will risk it being said that you puff things you have to sell, in the journal, when you advertise and give prices on the machine for putting in fdn. That is what we take the journal for — to get the latest improvements in implements and tools, as well as to get each other's experiences in handling bees and honey. Advertise every thing you can indorse as being convenient and of use to us. R. T. CHAPMAN.

Garrettsville, Ohio, May 24, 1884.

[Thanks, friend Chapman, for your kind and encouraging words.]

I received the goods ordered of you, and found them perfectly satisfactory. The Clark smoker goes beyond my expectations. I have used other kinds, but I like this much the best. It lights easily, holds fire perfectly, and gives immense volumes of smoke. I'm satisfied. Also the Gray foundation-fastener suits me to a T. Go right along; give us cuts of all the good things as they come before you, and then don't by any means be backward about telling how much you can furnish them for, and you will not displease the great majority of your subscribers. I don't think any mechanic can be found, "certainly not in this section," who would make the Gray machine so well for any thing near the price you sell them at. Then, again, you know just what they are to do, and can see that they will do the work before shipping. I have bought several little bills of you, and consider every thing received eminently worth the money, and they gave perfect satisfaction. THOS. H. WALTON.

Doylestown, Pa.

I received your A B C of Bee Culture this spring, and have fed on its pages ever since. As a guide to bee-keeping, it is far beyond my expectations; in fact, "Root" is a household word with us, and is esteemed in the apiary as the Bible is in our daily walks. It is very plain, and, together with its many engravings, it makes it a perfect gem.

But, I must tell you about my bees. The other day we transferred them from a box to a Langstroth hive, and we did it just as "Root" said; and although my first attempt, it was done as easily as if I had been a "vet." The colony is one I caught last summer while in the lot at work; and after I read your ever-valuable book I find your first beginning was with a caught swarm, and Mrs. P. laughed, and said, "Do you expect to be a Root in regard to bees?" But I do not, as the section of country is not so good. M. D. PARKHURST.

Boonville, N. Y., May, 1884.

The following we find in the *Herald*, cf Winchester, Ind.:

The "A B C of Bee Culture," by A. I. Root, Medina, Ohio, has been received and examined with great interest and profit, we being among the number of amateurs in bee science which are springing up all over the country. The work is a complete digest, as well as an elementary treatise on bee culture, as the title assumed for it indicates. It is a book of nearly three hundred pages, fully illustrated, and beautifully printed and bound, and adapted to the use of a new beginner, with a new edition issued each year, thereby keeping fully abreast with all new discoveries and improvements in this comparatively new and interesting occupation. The author has been engaged in the work for twenty years, and seems a perfect enthusiast, as well he might be, having commenced on a single "runaway" swarm about that time, and is now the leading apiarist of the country, employing one hundred and fifty hands about his bee-farm and various work-shops connected. There is nothing new or novel in bee culture or bee supplies, but is furnished or kept by this celebrated establishment, even down to a printing-office! We would commend our bee beginners to send for a catalogue and this book, whether an apiarist, or only students, learning the habits and wonderful "instinct" of these most wonderful "sweet bugs."

BEE-KEEPERS' SUPPLIES.

It will pay to get our prices before purchasing supplies; good Langstroth hives, with 8-in. cap frames, in the flat, 60 cts. each; Langstroth winter-protector, in lots of 50, $1.50 each; small lots, $1.75, all in the flat. Manufactured of good pine lumber. Workmanship unexcelled. Crates, Sections, and Foundation. **WM. O. BURK,** 8tfd

Successor to Hiram Roop. **Crystal, Mont. Co., Mich.**

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

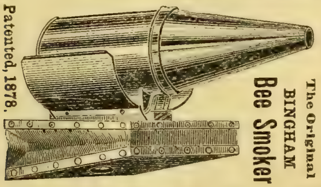
CHAS. DADANT & SON,

3btfd **Hamilton, Hancock Co., Illinois.**

SEND FOR OUR CIRCULAR!

We keep in stock a full line of bee-keepers' supplies, Simplicity and Chaff Hives, one-piece Sections, Crates and Cases, Extractors, Smokers, Given Foundation, and BEES AND QUEENS. Circular free.

7-12db **REYNOLDS BROS., WILLIAMSBURG, IND.**



Borodino, N. Y., Aug. 15, 1882.

CYPRIANS CONQUERED.—All summer long it has been "which and t'other" with me and the Cyprian colony of bees I have — but at last I am "boss." Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. Respectfully,

G. M. DOOLITTLE.

Mess. Bingham & Hetherington:—

DEAR SIRS,—I received those Smokers in good order, and am much pleased with them, and the improvements, over the old ones. They can not fail to please your customers. Thanks for promptness.

Yours truly,— J. M. HIBBARD.

Athens, Ohio, April 21, 1884.

PRICES:

		By mail, postpaid.
Doctor Smoker (wide shield)	3½ inch,	$2 00
Conqueror Smoker (wide shield)	3 "	1 75
Large Smoker (wide shield)	2½ "	1 50
Extra Smoker (wide shield)	2 "	1 25
Plain Smoker	2 "	1 00
Little Wonder Smoker	1¾ "	65
Bingham & Hethering'n Honey-Knife	2 "	1 15

To sell again, apply for dozen or half-dozen rates.

Address T. F. BINGHAM, P. M., or
BINGHAM & HETHERINGTON,
9tfdb **ABRONIA, MICH.**

BEE-HIVES, CHEAP! CHEAP!

Simplicity and Heddon hives and cases. The last named, a *specialty*. One-piece sections, foundation, smokers, etc. Send for price list.

J. J. HURLBERT,

3-5-7 9-11-13d **Lyndon, Whiteside Co., Ills.**

BEES ⁘ TO ⁘ SELL

At $3.50 each for full swarms, put up in light shipping-boxes, with comb of brood and honey. Ten per cent off for five or more swarms.

M. W. Harrington, Homestead, Iowa Co., Ia.
12-13d.

CHEAP! - CHEAP!
FULL COLONIES, NUCLEI, and QUEENS.

SEND FOR PRICE LIST TO

DAN WHITE, NEW LONDON, HURON CO., O.
7tfdb

THE COMING HIVE,

And every thing live Bee-men need. Send for price list to

KENNEDY & LEAHY,

10-tfdb. **Higginsville, Lafayette Co., Mo.**

WE CALL the attention of all wanting A No. 1 bees, Italian, Hybrid, or Cyprian, to the following, from one well known to the readers of this paper:

"I have never seen a case of foul brood; my bees are entirely healthy, and have always been so, and are O. K. in every respect. GEO. B. PETERS, M. D."

We can furnish any number of the above bees, and will warrant satisfaction and safe delivery. N. B.—No bees sold from any apiary that has ever had a case of foul brood in it. Write for particulars and prices to FLANAGAN & ILLINSKI,

9-14db Lock box 995, Belleville, St. Clair Co., Ill.

STANLEY
AUTOMATIC HONEY-EXTRACTOR
—AND—
DOLLAR SMOKER.

Also other supplies. Send for free circular.

10tfdb **G. W. STANLEY & BRO., Wyoming, N. Y.**

Italian Dollar Queens.

Reared under the swarming impulse from imported mothers, $1.00 each; these queens are reared in a perfectly natural way, and, in my opinion, are superior to queens reared artificially. Safe arrival and satisfaction guaranteed. 12-tfdb.

S. WHAN,

Raymilton, - Venango Co., - Pa.

BEES AND FOUNDATION-MOLDS CHEAPER.

25 PER CENT discount in July on every thing but $1 queens. See circulars and May "ad."

OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.
12-tfdb.

NUCLEUS COLONY with Italian queen after July 4th, with 3 L. frames, $3.00; or 2 L. frames, $2.50. Italian queens, $1.00. Improved smokers, $1.00.

11-12-13tfd J. L. HYDE, Pomfret Landing, Conn.

1884. 6 Warranted Queens for $5.00. Write for circular. 1884.

7tfd. J. T. WILSON, - MORTONSVILLE, KY.

Bright Italian Queens!

Beautiful golden-colored bees, very gentle, and excellent workers. Queens large and prolific. Untested queens by mail, $1.00 each. Tested queens, $2.00. Extra tested for queen-raising, $3.00. Address

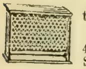
DR. A. P. COULTER,
13-18db. Marissa, St. Clair Co., Ill.

ITALIAN AND ALBINO QUEENS!

All Italian queens bred from selected imported queens, Root's importation, and the cells built and hatched in full colonies. Customers can have either light or dark queens. Orders filled promptly. Warranted queens, $1.00; six for $5.00. Tested queens, $1.50. Safe arrival guaranteed.

13d F. H. SCATTERGOOD, Winona, Ohio.

FLAT - BOTTOM COMB FOUNDATION.



High side-walls, 4 to 14 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS
4tfd *Sole Manufacturers,*
SPROUT BROOK, MONT. CO., N. Y.

1884. For Sale. 1884.

Pure Italian Queens and Bees

FIVE-FRAME (Langstroth Frame) COLONIES

A specialty. Five bright new combs, wired in, covered with young bees, filled with brood and stores with a pure young fertile Italian queen. My queens are carefully bred from best imported and homebred stock. Bees gentle, industrious, and beautiful; better than a natural swarm. I was awarded first premium at St. Louis Fair last fall over quite a number of worthy competitors for best Italian queens and bees. Send for circular and price list.

WILLIAM LITTLE,
5-7-9-11-13-15d **Marissa, St. Clair Co., Ills.**

UNPARALLELED OFFER. Warranted Italian queens only $1.00. Address S. F. REED,
7-13d North Dorchester, N. H.

ONE-PIECE SECTIONS A SPECIALTY!

Sample lots of 100 sections, 50 cents. See adv. in GLEANINGS of Feb. 15. B. WALKER & CO.,
7-15d Capac, Mich.

I WANT TO SELL.

Being unable to keep, for want of room, my accumulation of Simplicity Hives, Frames, Sections, Chaff hives, and all Apiarian Supplies. Price list free.

C. P. BISH,
11-15d. **PETROLIA, BUTLER CO., PA.**

FDN. MILLS, 10 INCH $15.00
W. C. PELHAM
MAYSVILLE, KY.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

UNTESTED QUEENS

75 cents, after July 1. Also a few

HYBRIDS

at 35 cents. C. B. CUSTER,
13d. Selma, Dallas Co., Ala.

BEES FOR SALE CHEAP.

I will sell a number of strong colonies, 10 L. frames, nice and straight, built on wired fdn., in new Van Deusen-Nellis hives, with clamps, etc., at $6.00 per colony, delivered at Adams, or B. & O. Express Office. Would exchange one or two for Poland-China pigs. THOS. FOOTER,
13d. Box 354, Cumberland, Allegany Co., Md.

1884. ITALIAN QUEENS. 1884.

Orders are all filled, and a good stock of untested Italian queens on hand, ready to ship by return mail. Dollar queens, $7.00 a dozen. We are now ready to send out 100 lbs. of fdn. cut to fit any frame, made on one of A. I. Root's mills. We will take $50.00 for the lot. *T. S. HALL,*
13-14d. *Kirby's Creek, Jackson Co., Ala.*

ATTENTION, QUEEN-SHIPPERS.

A new candy for shipping queens in 10 and 20 lb. cans—the 10-lb. can for $1.75; 20-lb. can for $3.50, by express. This candy can not be excelled in the United States. Send for prices on large quantities.
13-tfdb. **T. S. HALL, Kirby's Creek, Ala.**

3-FRAME NUCLEUS, STRONG IN BEES, AND a good $1.00 queen. Price $3.00. Also good Bee-Hives, Sections, Smokers, etc.

T. A. GUNN,
13-14d Tullahoma, Tenn.

DOLLAR QUEENS,

bred from my choice strains of Italians, $1.00 each; ½ doz., $5.50; 1 doz., $10.00. Warranted queens, ¼ more. Safe arrival and entire satisfaction guaranteed. Circular free. J. P. MOORE,
13d. Box 27, Morgan, Pendleton Co., Ky.

THREE ITALIAN QUEENS FOR ONLY $2.00; single queen 75c., bred from imported mother. Bees $1.00 per lb.; 2 L-frame nucleus with queen $2.00. Circulars free. E. H. COOK,
13d Andover, Conn.

SAFE INTRODUCTION GUARANTEED BY use of Safe Cage. In July and after, price of untested Italian queen $1.10, or without guarantee, but in Safe Cage, $1.00. See June advertisement. Circulars free. S. A. DYKE,
13tfdb. Pomeroy, Ohio.

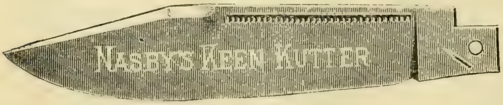
W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

can furnish pure Italian Queens, reared under the swarming impulse, in his own apiary, at $1.00. Make money orders payable at Flint, Mich. 13tfdb

Italian Queens!

Tested, $2.00; untested, $1.00; raised from imported mothers. AMOS BLANK,
13tfdb. Woodville, Sandusky Co., Ohio.



MAHER & GROSH show here the large blade in their "Nasby" Knife; ebony handle, with a small blade; price postpaid, 65c. Blades hand-forged, and replaced free if soft. Boys' razor steel knife, 25c; strong 2-blade, 50c; Ladies', 20 to 50c. 48-page price list free; also, "How to Use a Razor." Discount to clubs.

74 NORTH SUMMIT STREET, TOLEDO, OHIO.

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KIND WORDS FROM OUR CUSTOMERS.

I am making good use of the extractor, and it works like a charm. CHAS. DREYFUS.
Macon, Ga., May 28, 1884.

OUR FOUNDATION.

Please send me 15 lbs. fdn., 8x16½. The other box you sent was the best I ever saw; it ran 6½ sheets to the pound. Please send the same this time.
Attica, O., June 26, 1884. J. E. ENNIS.

Received the goods in fine order. I am well pleased with every thing you sent. If you give every one as good count as you give me, I don't see where your profit comes in. I put 500 sections together in one hour and eight minutes, by the clock.
D. W. HIGGINS.
Annapolis, Md., May 8, 1884.

I must say a word in favor of wintering on summer stands with chaff division-boards and chaff pillow on top, and no enamel cloth, as you recommend in A B C. Ours came out in good shape. I will also say that your directions in the same have made bee-keeping a success with me.
F. M. BLANCHARD.
Orwell, Ohio, June 6, 1884.

The 17 Simplicity bodies and two smokers I ordered of you, came all right. They are as good as I expected, therefore I am very well satisfied. Thanks for your promptness and liberality. You have treated me so well that you can look for orders from my neighbors. I have a brother who has acted as agent for GLEANINGS, and dealt with you for several years. He has great faith in you as being an honest man. That great "bee-starver," the extractor, is the cause of many colonies dying this winter in our neighborhood. NOAH W. HARLAN.
Jolietville, Ind., Feb. 10, 1884.

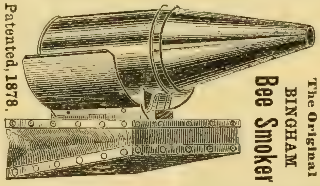
KIND WORDS FROM A DISABLED SOLDIER.

I wish to say that all my little orders to you have been so promptly filled, and your goods have given my customers such general good satisfaction, that I must say "thank you." I have purchased several of your dollar queens, and so far every one proved to have been purely mated; in fact, I have two, one of last year and one of this, that are so large and fine, and have such beautiful three-banded bees, that I expect to exhibit them as your dollar queens at our county fairs. I have made a pretty good record in the bee-work this season for a disabled soldier. I made 68 two-story L. hives, old style, and transferred 43 colonies of bees in the neighborhood, besides attending to 20 colonies at home. I am very tired of the old-style L. hive; and just so soon as I get able to buy a foot-power saw I will make my hives as you make them; for as I understand, the Simplicity would be very hard to make by hand, so that the parts would fit as they should. And, by the way, do you deal in or have control of any second-hand foot-power saws? Long years of enforced illness have reduced my circumstances so that I have to be very economical in all my purchases; and if I can get a second-hand Barnes saw that is not too badly worn, I think it would do my work, and I would make my hives so they would not be so heavy and homely. I did not expect to bother you with a letter; and unless you can give me some information about the saw, why, I do not expect you to answer it at all; but all the same, I shall always feel very grateful for the many good things I have learned from your words and your works. A. B. HERMAN.
Burnettsville, Ind., July, 1884.

[We have no second-hand buzz-saws at all; but perhaps some of our readers may be able to accommodate our friend.]

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any late number of GLEANINGS previous to May 15. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the, and, that, ing, tion,* etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb. A. I. ROOT, Medina, Ohio.



Borodino, N. Y., Aug. 15, 1882.

CYPRIANS CONQUERED.—All summer long it has been "which and t'other" with me and the Cyprian colony of bees I have—but at last I am "boss." Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. Respectfully,
G. M. DOOLITTLE.

Mess. Bingham & Hetherington:—

DEAR SIRS.—I received those Smokers in good order, and am much pleased with them, and the improvements, over the old ones. They can not fail to please your customers. Thanks for promptness.
Yours truly,— J. M. HIBBARD.
Athens, Ohio, April 21, 1884.

MARENGO, ILL., June 18, 1884.

The Doctor Subdues All.—MR. T. F. BINGHAM, Dear Sir:—I've used the "Doctor" till it is all daubed up with bee-glue, and although at first sight I thought I did not like any thing so large, I could not now be induced, except by the direst poverty, to do with any thing smaller. As a matter of "economy" I much prefer the "Doctor" to any of the cheaper smokers, of which I have worn out several. The "Doctor" has entirely cured me, so that I am now a Bingham man, as my wife always has been. If the somewhat vague remark in your letter means that nothing was charged for the smoker sent, except the reading of your letter, I shall be very glad of another "Doctor" for the money sent, so that my wife won't take mine from me. Bees just booming on white clover.
Yours truly, C. C. MILLER.

PRICES:

			By mail, postpaid.
Doctor Smoker (wide shield)...........	3½	inch,	$2 00
Conqueror Smoker (wide shield)........	3	"	1 75
Large Smoker (wide shield)............	2½	"	1 50
Extra Smoker (wide shield)............	2	"	1 25
Plain Smoker..........................	2	"	1 00
Little Wonder Smoker..................	1¾	"	65
Bingham & Hethering'n Honey-Knife	2	"	1 15

To sell again, apply for dozen or half-dozen rates.

Address T. F. BINGHAM, P. M., or
BINGHAM & HETHERINGTON,
9tfdb ABRONIA, MICH.

HONEY COLUMN.

CITY MARKETS.

SOME WISE SUGGESTIONS FROM FRIEND MUTH, IN REGARD TO THE DISPOSAL OF HONEY.

CINCINNATI.—*Honey.*—The rush of the supply business being over, one has a chance once more of thinking of something else without feeling as if it were at the expense of his business friends. Every one seemed to prepare largely for the coming crop; but the harvest is virtually over in this part of the country, and the yield below the average of former years. The average per colony in Ohio and Indiana, is perhaps 30 to 40 lbs.; in Kentucky it may come up to 100 or 110 lbs. per colony. I can only speak from observations—obtained so far, and my figures may not be entirely correct.

Sugar being cheaper than it has been, perhaps for the last 20 years, we can not expect honey to be high. But there was a short crop, and it would be my advice to our friends, not to be in too much of a hurry in disposing of their product. The demand for extracted honey is fair, and will, very likely, improve. It brings 6 to 9 cts. on arrival. There is not much demand for comb honey, but there has been small offers only, and a good deal could be sold. A good article brings 14 cts.

Beeswax is plentiful, and brings 30 to 32 cts. per lb. on arrival CHAS. F. MUTH,
S. E. Corner Freeman and Central Ave.,
July 12, 1884. Cincinnati, O.

KANSAS CITY.—*Honey.*—Market still quiet and unchanged. This extreme warm weather is not calculated to make much demand for honey, though I look for a decided improvement soon, and will suggest shipment by August 1st, of all honey that is ready in quantities to justify. Extracted in fair demand at 7 to 8 cts.

Beeswax nominal, 30 to 35. I have still a few more "*Suggestions on Packing and Shipping Honey.*" to mail free on application. I will also furnish shipping-stencils free to any one desiring to ship to me. JEROME TWICHELL,
July 13, 1884. 514 Walnut St., Kansas City, Mo.

CHICAGO.—*Honey.*—The new crop is coming on the market freely. Prices vary quite a good deal, as the comb honey is to be found in almost every commission house. This is always the case at the beginning of the season, as small producers do not take as much interest as those who make honey-producing a business. White comb, 14 to 18 cts., in 1 and 2 lb. frames. Extracted unchanged.

Beeswax, 30@37c. for good to best yellow. The demand for honey is exclusively local.
R. A. BURNETT,
July 11, 1884. 161 South Water St.

NEW YORK.—*Honey.*—Our honey market continues dull, especially in comb; extracted is in fair demand; namely, Cuban and Southern, at from 80 to 90 cts. per gallon, according to quality.

Beeswax.—New Southern is coming in freely, and declining in price. We quote prime at 33 @35c.
THURBER, WHYLAND & CO.,
July 12, 1884. Reade & Hudson Streets, N. Y.

ST. LOUIS.—*Honey.*—No improvement in extracted honey, and we do not look for any until the latter part of August. It is worth in barrels, when a sale can be made, 6 to 7 cts.; in cans, 7½ to 9 cts. retail. No choice honey in this market, and no demand for any kind. Prices nominal. Dark, 10 to 12 retail; white, 14 to 15 retail.

Beeswax, lower, and demand easing off. Choice yellow, worth 35 cts.; slightly mixed, 34. Stock small.
W. T. ANDERSON & CO.,
July 11, 1884. 104 N. Third St., St. Louis.

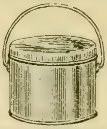
DETROIT.—*Honey.*—The honey market is still without improvement. While there is some demand, it is but weak. A good article is quoted at 15@18c.
Beeswax, 30@35c. A. B. WEED,
July 12, 1884. Detroit, Mich.

I want to buy good white-clover or basswood honey, comb in 1-lb. sections, extracted in small barrels. State lowest cash price delivered here, including cans, kegs, or barrels.
JOS. M. BROOKS, Columbus, Barth. Co., Ind.

FOR SALE.—4000 lbs. of well-ripened white clover, extracted honey, in 55 lb. iron jacket, tin cans, at 7c per lb., and A. I. Root's price of can. Will ship in any size can desired.
JNO. OLSEN, Nashotah, Waukesha Co., Wis.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

PACKAGES FOR EXTRACTED HONEY!



— MANUFACTURED BY —
WM. ∴ WEEKS,
∴ ALBANY STEAM TIN-WORKS, ∴
NO. 2 DIVISION ST., ALBANY, N. Y.

Pails that are very desirable to housekeepers after they are emptied, and in great demand by the honey trade.

1	Pound Honey-Pails	
1½	" " "	1 Pt.
3	" " "	1 Qt.
6	" " "	½ Gal.
12	" " "	1 Gal.
25	" " "	2½ Gal.

ANY OTHER SIZES MADE TO ORDER.
12-tfdb.

COMB FOUNDATION A SPECIALTY.

Manufactured on Vandervort Mill, price per lb., 55 cts. for brood-comb fdn., cut to any size wanted. Wax made up for 15 cts. per lb., or two-fifths of wax. Sample free. C. H. McFADDIN,
14d CLARKSBURG, MONITEAU CO., MO.

UNTESTED QUEENS

75 cents, after July 1. Also a few

HYBRIDS

at 35 cents. C. B. CURTIS,
13d. Selma, Dallas Co., Ala.

FARM FOR SALE.

I offer a good farm for sale, 125 acres, good buildings, on a good turnpike road, very desirable neighbors, and in an excellent locality for bees and honey; white clover and forest pasture in abundance. Terms fair, and title perfect. Address or apply to
SAM'L G. HILLIS,
14-15d Concord, Lewis Co., Ky.

WARRANTED ITALIAN QUEENS.
$1.00 Each: 6 for $5.00.
Send for circular. CHAS. D. DUVALL,
14tfd Spencerville, Mont. Co., Md.

1 Tested Queen, 1 Frame *Brood and Honey, all the Bees in a colony which has not swarmed; from 5 to 7 lbs.; $3.50. Hybrid Queen, $3.00.*
14d GEO. F. WILLIAMS, NEW PHILADELPHIA, OHIO.

WANTED.—A new or nearly new six-inch Vandervort machine, made expressly to make comb for boxes. S. RUGGLES, Saratoga Springs, Saratoga Co., N.Y.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

GLEANINGS IN BEE CULTURE.
DEVOTED TO BEES, HONEY & HOME INTERESTS.

Vol. XII. JULY 15, 1884. No. 14.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

A REMEDY FOR EXCESSIVE SWARMING.

ALSO SOMETHING ABOUT THE CROSS BETWEEN SYRIANS AND ITALIANS.

I SEE in July GLEANINGS, V. P. Dupuy states an important fact when he says the swarming tendency is inherited, and hence we may have less trouble from too much swarming by weeding out those queens that seem to have this mania, and rearing new queens from stock of more steady habits. I fully believe that, for I have this summer a colony of Italio-Cyprians that have been given the name of the swarming queen. She was marked last summer, for she had only led a colony into a new hive, and occupied it a week or less, when she again led a colony off, with plenty of empty combs in the midst of the brood-nest. This season she again swarmed, and the colony sent off an after-swarm, and I think would have sent off a second after-swarm, if I hadn't torn out all the cells but one.

In my apiary of 50 colonies, I have had but two other swarms this season. I shall designate this queen and all her descendants as the "swarmer" race. I must add, the queens of this race are exceedingly prolific and excellent; in fact, superior honey-gatherers. There was a special cause for excessive swarming last season; viz., the *uninterrupted* flow of honey from the first appearance of fruit-blossoms until the end of white clover. Usually there is a scarcity of honey for two weeks after cherry-blossoms, at which time drone and queen cells started are all destroyed; and as the season advances, the natural-swarming impulse wanes, and is easily prevented.

As an example, I give the record of a colony for 1883.

May 15, 1st swarm; 25, 2d swarm; 27, 3d swarm; 30, 4th swarm; June 1, 5th swarm. I didn't follow these colonies to see how often they swarmed again in 1883, but I found the old colony left queenless; this colony was the Syrio-Italian stock.

SYRIANS, CYPRIANS, ITALIANS, WHICH?

Neither; I want them mixed. I had a stock of pure Syrians; couldn't get along with them, and sold the queen to you last summer; they were not remarkable for work, nor for prolificness; but I have a daughter of that queen, fertilized by an Italian drone, the most prolific queen, and decidedly the best working colony in my apiary; up earlier in the morning; at it later in the evening; storing more honey, with none so far ever seen "hanging out;" besides, they are beautiful and gentle. Of some I sent you last summer, you wrote they were "among the handsomest bees you had ever seen." If the swarming impulse is inherited, can't I, or shouldn't I, preserve the good qualities of this stock by raising my queens from her? I vote for the Syrio-Italians.

TWO LAYING QUEENS IN THE SAME HIVE.

I had an experience last summer like J. W. Eckman's, page 454, a mother and daughter laying together in the same hive, and I always found them on the same comb. Many times I saw the young queen approach and touch the old one with her antenna. After a few weeks the old one disappeared; unfortunately, the young queen also died in wintering.

CROPS FOR HONEY.

I want to sow something next year to give my bees employment after July 7th. I had buckwheat last year, but I think mustard will do better. Who can tell me when to sow it? How much seed to an acre,—and what yield of honey to expect, and the quality? S. W. MORRISON.

Oxford, Pa., July 7, 1884.

SAMPLES OF THE HONEY-CROP OF 1884,

SUBMITTED FOR AN OPINION.

WILL the friends who send samples of honey for my inspection, please put their names plainly on the package? and if sent by express, send your letter along with it. This will save some confusion in identifying. Of course, it is always in order to prepay express charges. The little blocks which we have for mailing will answer just as well, for I can pass my opinion on a teaspoonful as well as on a larger quantity.

HONEY FROM TEXAS, EQUAL TO ANY.

I mail you this morning two samples of honey. Please let me know what you think of them for Texas honey. E. CRUDGINGTON.

Breckenridge, Texas, June 25, 1884.

Friend C., I think the above, in color and flavor, equal to any thing produced in the world. That which you label mesquite is not only beautifully white, but has a flavor to me fully equal to the far-famed mountain sage of California. The other, marked on the label "Cat claw," although perhaps not quite equal to the mesquite, is the whitest honey it has ever been my privilege to look at. I should say that honey like either of the samples would command as high a price as any thing produced in the line of honey. Now, then, if you will excuse the Yankee liberty I take, how much have you, and what will you take for it? Wouldn't it be funny if Texas rivals the world in quality as well as quantity?

A SPECIMEN FROM NORTH CAROLINA.

This day I send you by express a small sample of my honey. I think it very nice. Please let me know what you think of it. I have about 1500 lbs. for sale; have found no market yet. Would like very much to see some white-clover honey. My bees are all blacks, but they work finely. I have taken from one colony that swarmed out this spring, 150 lbs. honey, with only a small quantity of fdn. I think I shall try an Italian queen next season.

J. F. WILLIAMS.

Warsaw, Duplin Co., N. C., June 28, 1884.

And your honey too, friend W., is just beautiful. I can not name the source; but if it came from California, I should say it had the flavor of mountain sage. The color is a little dark; but in flavor I should pronounce it fully equal to any white clover. Can you tell us what the bees gathered it from? If your 1500 lbs. is all like this, there will certainly be no trouble in finding a market. Its color would perhaps make it a cent or two less per pound than the Texas honey mentioned above.

TEXAS AGAIN.

I send you a bottle of honey, to find out as to its purity. Give it a thorough investigation, and answer accordingly. Please tell me the difference, if any, in the making of honey about its candying sooner from the spring and fall; in other words give me full information. D. G. LINDSEY.

Brownwood, Texas, June 26, 1884.

Friend L., I should call the sample pure honey, although I have no means at hand for making a chemical analysis. The color is good; and the flavor, although a little queer, is by no means unpleasant to me. I should think it ought to command a fair price in the market. The candying property is by no means reliable. While the honey from most sources candies promptly at the approach of cold weather, there are many sources from which bees obtain honey which does not candy, or, at least, candies very seldom. I do not know whether this is gathered in the spring or fall, in this respect.

BEE-STINGS.

What to do for When the Symptoms are Dangerous.

ALSO SOMETHING ABOUT GETTING BEES OUT OF A ROOM.

ON page 300, of GLEANINGS, I see that W. W. Edwards wishes to know what to do in case of severe stings. I will state a little experience we had, and may be it will be of benefit to some one. Summer before last, as my father was coming from work he came through the apiary, and was stung on the arm; he went to work after dinner as usual; but in the course of an hour he began to break out all over in small hard white spots, looking somewhat like "hives," accompanied by much itching. Coming home he took a very hot bath in which was put about a pint of salt, which gave him much relief, and in a day or two he was all right. We did not at the time think that the above symptoms came from a sting. About a week after, he was stung on the face, when immediately it produced the same effect as stated above; the same remedy was applied, which at once gave relief, although the face was swollen for a couple of days. Five years ago, when I began bee-keeping, a sting produced much swelling; but now hardly any, generally none; but if I am stung on the right hand two or three times, and often if only once, an intense burning sensation passes quickly up the arm, and distributes itself, as it were, through the right side of my chest, lasting from two to five minutes; if on the left hand or arm, the effect is the same, except that the burning is in the region of the heart, sometimes almost producing faintness. Has any one a like experience, and will some one well versed in medicine tell us what to do to counteract this effect? Although off the above subject, I want to say that one of our neighbors says, that when she is much bothered by the bees in the kitchen, she drives every one out by burning sealing-wax on a shovel of hot coals. GEO. F. WILLIAMS.

New Philadelphia, O., May 5, 1884.

Friend W., wouldn't a cold-water bath without any salt do just as well? As salt water is a better conductor of heat, perhaps it might allay the fever caused by the sting a little quicker. I think cold water would drive away faintness in the case you mention. If not convenient to apply the water, lie down in such a way as to have the head a little lower than the rest of the body. This will often of itself revive a fainting person. —In regard to driving the bees out of a room by burning sealing-wax, it seems to me the burning wax would have the opposite effect. To get bees out of a room, I would open all the doors and windows, and then carefully remove or cover up every thing that attracted them. So far this season we have not had a bee buzzing about our honey-house. The reason is, no honey is left exposed that will start them.

BEES SWARMING WITHOUT A QUEEN.

MAY NOT A FERTILE WORKER TAKE THE PLACE OF A QUEEN?

SEEING nothing in GLEANINGS about bees swarming without a queen, but having fertile workers, I concluded that I would write you a letter on the subject. About two weeks ago, John Coon came running from the corn-field, where he was working, and said he had settled a swarm of bees. As we had no hive of the cheap kind, he said he would let them go. But pa said, " Walter, here, has a hive he made for a swarm; he can go and get them, and pay you what they are worth."

John said, "All right."

I went and took the swarming-box and went and got them. There was half a pint of them, and no queen, that I could discover. I put them in a two-frame nucleus hive got of you, with Mitchell frames, and some comb. In about a week I looked at them and they had eggs in the comb. In one cell there were as many as 12 eggs. Fertile workers thought I.

Pa and I were examining a hive of bees, and found three young queens just hatched out, and the old one. We put one in with my bees, and made two more nuclei. Day before yesterday I came home from work, and *my* bees were gone. I looked around and saw some bees flying around a cedar-tree. I went there, and my bees were there, as was also the queen, and about 25 or 30 drones. I suppose that the queen went on her wedding-flight, and was followed by my bees and strange drone. I took them and put them in a nucleus box with 3 frames, 6x4, and they seem to be all right at present.

We have 36 stands of bees; 12 in our improved Simplicity chaff hives, and 28 in other chaff hives, and one (my large swarm) in a common Simplicity hive, one story, without chaff, that I made myself. We are going to transfer to chaff hives next season.

We have a carp-pond, with 75 carp, whose average length is 16 inches, and millions of small carp; also a poultry-yard of fine-blooded Plymouth-Rock chickens. We have had one swarm abscond this year. We have set out a maple-grove near our apiary this year. We are going to build a new shop soon.

Mr. Root, some time when you take a trip for your health, come out our way, and see how well you are treated. WALTER A. KEELER.

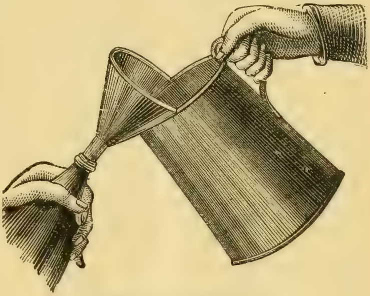
Andersonville, Ind., July 7, 1884.

I think you are right, friend B. Since you mention it, I believe I have seen small clusters of bees behave themselves toward a laying worker very much as if she were a queen. The cluster is usually small, however, and they seem to have a sort of demoralized way of acting. A good frame of hatching brood, as well as sealed brood, will probably straighten them out.

AN IMPROVEMENT IN HANDLING LIQUID HONEY.

A MEASURE AND TUNNEL COMBINED.

WHO has not experienced difficulty in pouring honey or oil into small-mouthed utensils, or into an oil-can? Our boys wasted so much oil in filling up their oil-cans, that Mr. Gray, some time ago, had a can made with about half of the top covered over, and a small spout at one edge to conduct the oil into the mouth of the can. This utensil was so handy that the girls were continually borrowing it when they had to put oil, glycerine, and other liquids, into bottles. Well, I was thinking about them for household utensils, when finally I found an engraving of them in one of our catalogues of tinners' goods. I will show you the engraving below.



THE UTILITY MEASURE.

In using an ordinary tunnel with a measure, you have often felt the inconvenience of being obliged to hold the tunnel in place, and manipulate the measure at the same time. Well, the above makes both handy utensils all in one. We are so much pleased with them that we have placed them on five of our counters. The smallest one holds half a pint; price 15 cts.; one pint, 20 cts.; one quart, 25 cts.; two quarts, 35 cts.; and the largest, holding a gallon, 50 cts. They can be safely sent by mail for 4, 6, 8, 10, and 20 cents respectively.

THE USE OF SLANG WORDS.

A KIND REPROOF.

NOTICE page 403, JUVENILE, in first column, and note the "slang" expression there used by the great disseminator of morality, etc., "*catch on.*" Why, sir, I am surprised, especially as I can easily see that this habit of using slang is slowly creeping into lots of your writings. There are 6000 people who closely watch you, and—look out! R. C. TAYLOR.

Fort Scott, Kan., June 24, 1884.

Thank you, friend T.; but I am not sure that I entirely agree with you in this matter.

I used the words "catch on," because they seemed to tell more in few words than I could tell otherwise. You yourself use the expression "lots" in speaking of my writings. Is not that also slang? or are you going to say it was in consequence of my teaching that you used it? It seems to me there is an extreme both ways in this matter, although very likely one could get along tolerably well in this world without any slang words at all; that is, if one could keep from copying the expressions he has heard. In our homes our little ones have quaint expressions and expressive words, and I confess I like to hear not only the older children, but papas and mammas, catch up the lisping words of the little toddlers and prattlers. Now, I catch up a funny or quaint expression in the same way; but I certainly do not want to set a bad example before any one. Friend Hasty, you will remember, uses many odd expressions, and oftentimes makes his meaning clearer by so doing. Now, would you have him drop out entirely the very thing that gives the spiciness to almost every letter he writes? If there has been any bad or indecent meaning attached to any phrase, I would by all means avoid its use. The one you allude to I got through the letters that you are writing me day after day, and it seems to me to be remarkably expressive. While on this subject, our stenographer remarks that H. Clay Trumbull, editor of the *Sunday-School Times*, has been criticised in this same way; but he replies, to the effect that he writes as people speak, or as he would speak to them, and insists on saying *can't* and *shan't* when the full words *won't* do as well. I confess that I myself like to see a certain amount of dignity, but I do not like to see it preserved beyond a certain limit.

RECENT DEVELOPMENTS,

And Suggestions and Queries Particularly Pertaining to the Season.

NIPPED IN THE BUD

IS a proper heading for this time. Bees hereabout started in well this spring; they did well on fruit-bloom, and extra well on the black locust. I extracted 15 lbs. from one hive of locust honey—a thing I never did before; then clover opened after locust, without a break, with a prospect of a big boom, as they were fully two weeks ahead of the last two years in filling up, and nearly all had begun giving surplus, when all was "nipped in the bud," as we had a dry week, and killed the clover-bloom about all complete; and since the 20th of June, but a very few stocks have given any to speak of, and some are barely holding their own. We have had some honey-dews, just enough to taint all the honey with "bug honey," and no hope for any more storage this season.

NO SWARMING

Has been, or is, the complaint this year. With my 58 I had one swarm; a neighbor with 7, one swarm, and others no swarms.

QUEENS DO GO THROUGH THE ZINC HONEY-BOARDS.

I had a hive with a zinc honey-board; and seeing she was above it, I found her and put her on it, and watched her, and saw her stick her head down and go through as easily as you please; but they do not *all* get through. A. A. FRADENBURG.

Port Washington, Ohio, July 7, 1884.

I know, friend F., that queens do, at least some of them, get through the Jones zinc; but I do not think they ever do through our own. The only trouble with the latter is, that they sometimes hinder the workers also.

THE WAY TO GET BEES TO WORK IN TOP STORIES.

I see that Mrs. Gilbert, in July GLEANINGS, page 459, is in trouble about how to get her bees to work in the upper story. I will tell you how I work my bees. I have found by actual experience, that one hive or colony will store 3 to 4 times as much honey in upper stories as they will in sections on the side. When the honey-flow begins to come in, I prepare my upper story, take out the outside frames of the old hive, and put them in the upper story. If they have section boxes, I put them in the upper story, and all the brood-frames that have no brood in them, as they generally have no brood in the outside frames, then I slip the old frames that are already filled with brood to the outside; fill the middle with empty frames; this will give the queen more work, for they will go right to work in the empty frames, and the queen will fill them with eggs, fast as they build the comb; thus you will have the lower story full of brood. After I get the lower story all arranged I set my upper story on top, cover it, and leave it for the bees to do the rest, and I never have had a colony refuse to work in the upper story when they are fixed out in this way.

I prefer brood-frames for the top story, in preference to section boxes, as they sometimes build in lower tier of sections, and none in the upper; and when they commence in a brood-frame they hardly ever stop until they fill it. My experience is, they will make more honey in brood-frames in an upper story, than they will in section boxes in the sides; for, to tell the truth about the matter, a colony can not raise enough bees in 6 frames to do much good in a short honey season. W. C. HARWARD.

Kossuth, Miss., July 7, 1884.

HOLLY AS A HONEY-PLANT.

I see in your reply to L. A. Duggan, on page 455 of GLEANINGS, that you say that you do not know that holly has ever been reported before. That is one of our best honey-sources in this part of North Carolina. I have seen it on the leaflets of the bloom of holly in May—half a drop to each leaflet—white and perfectly clear, and bees in abundance gathering it. I had 8 stands or colonies (7 Langstroth frames to each), they gathered 400 lbs. comb honey from the 1st to the 26th of May, when our honey-flow for 1884 stopped. Honey here is made from black gum, low bush, huckleberry, poplar, holly, and other woods, and is made during May; seldon, if ever, is any honey stored after May. Last year my Italians stored in sections during July and August, from sourwood and sumac, each being very nice and white honey. Blacks do not work on sumac at all for me, and very little on sourwood—not enough to store any surplus.

I tried the plan of raising queens inoculated with drone larva, when each was about 4 or 5 days old. I had two queens hatched that were so inoculated, but they did not lay until they were 12 or 13 days old, so I suppose they must have mated in the natura way, as I expected they would lay by two or three days, any way. I noticed that they were *very large* —unusually so, when hatched out—fully as large as many laying queens, and had the appearance of being, but no sign of eggs until about 12 days old, in each instance. **ABBOTT L. SWINSON.**

Walter, N. C., July 12, 1884.

QUEENS ACROSS THE OCEAN BY MAIL.

You corroborate your correspondent's views by saying you have plenty of fire-flies and plenty of honey. We have hardly any fire-flies, and as little honey. I received to-day my Carniolan queen from Frank Benton; every thing pertaining, as neat as the one only from your place. **F. W. BURGESS.**

Huntington, L. I., July 7, 1884.

Very glad to hear your report, friend B. I have been watching for some time to see if friend Benton would make it work as nicely this season as last. Has any one else been equally successful?

ITALIANS AND RED CLOVER.

For the first time in my life I saw bees working on red clover, and they were working with a vim too. Do you remember when you took your dog and went after that gopher, how the dog, after digging a little, would place his nose to the hole, then throw his whole weight (and a little more) on his nose, to try and catch a scent of the game? Well, that just illustrates how the bees went for the red clover. They would alight on a blossom, and go to the bottom, and carry great loads of honey. Bees are doing very well indeed in this section. **J. J. MCWHORTER.**

South Lyon, Mich., July 4, 1884.

HOW TO GET RID OF THE ANTS.

If the friends will try the same plan that is often used for rats and mice, I mean poisoning, I think the result will please them. It is a plan I struck upon two years ago. Thoroughly poison, with arsenic or strychnine, a small quantity of meat or honey, and place in wire-cloth cages, or manage in some other way to keep it from every thing else, and put it in places that they frequent, and if your result is as mine has been, they will quickly vanish. **WALTER B. HOUSE.**

Saugatuck, Mich., July 8, 1884.

Please say to the friends who are so troubled with ants, get some corrosive sublimate; dissolve in alcohol, and apply with a feather around table and safe legs, and any place to keep them out, and they will never cross it. If applied once a month it will keep them out. As it is very poisonous, great caution should be taken in the use of it. **MRS. BELLE MCMAHAN.**

South Lake Weir, Florida, July 9, 1884.

HOW TO GET THE BEES OUT OF THE HONEY-BOXES.

You will do me a great favor by telling me how to get the bees out of 5-lb. boxes, after they are filled. **W. D. GANSE.**

West Liberty, Iowa, July 9, 1884.

Friend G., the modern way is to have your five-pound box, or, in fact, any sort of a box, so you can take it apart and brush or shake the bees off. If you can not do that, set your box of honey in a tight box or barrel, spread a white cloth over the top, and as often as the bees get on this white cloth, turn it over. It may take you a good while, but that is the only way to get the bees all out. If the box is open on two sides, you can sometimes drive them out with smoke. Whatever you do, do not let the bees get to robbing, as they often will if you leave the box away from the hive, so they can take a load of honey and come back again.

REPORTS DISCOURAGING.

KIND WORDS IN SPITE OF SAD PROSPECTS.

IT is not bee-knowledge alone I have gathered from GLEANINGS, but pure, true, Christian-like talks and sermons that equal the majority we hear in this part of the country. I like them well, and wonder how you can get time from your whirl of business to get up so fine a discourse gratis; indeed, I appreciate such thoroughly balanced minds that can take time and patience to answer so many thoughtless, fussy, and impertinent letters, then at the end of each month calm all our feelings by those Scripture lessons, and with such a masterly hand show forth our Savior in his every-day life, so humble and pure. I believe this is the reason your journal is gaining such a great reputation, and I hope you may be blessed in your well-doing, and that seed sown in its pages may not be lost.

Will you please tell me how to make candy to send queens by mail? I am almost discouraged with my luck for three years. It has been such a poor year here I have only 6 stands left from 60 last fall. Want of honey to gather; perhaps I overstocked; do you think so? or did I divide too closely? I started last spring, a year ago, with 23 stands, and increased up to 60; then doubled up in the fall to 40, and wintered on summer stands with chaff cushions. We had a mild winter. I went east, so the bees got no attention after November till the middle of April. I had fed them two sacks of granulated sugar syrup. From these 40 stands I got no surplus honey during the year—not even enough to use on my table. Now will you tell me who was to blame—the weather, the divider, or the bees, for not gathering more? I also raised 60 queens, and replaced all my old ones, and they were very strong in bees. In some hives I had to empty out nearly a peck of dead bees. I prided myself, after 5 years' experience, on being a pretty fair bee-woman; but the last three years, since I began to divide, has taken all that conceit out of me, I believe, and now am contented to hear my friends say, "You have not succeeded, have you, with your bees?"

Mr. Root, the question is, Will it be wise to hasten on breeding as fast as I can, in the face of the sad prospect when they are gathering but very little honey, and I am feeding them now? June is a good month for bees, is it not? and if they have to be fed to keep them breeding, what is the prospect, from your clear judgment, even if you are so many miles distant? What is your opinion about Colorado for bees? Do bees need water now, while breeding? Do you divide your bees, or let them swarm? Do you know which process is being practiced generally? I should like to know what you think best to do with this yard of hives, filled with comb mostly, what the mice have not devoured. I being away for four months visiting, the bees received no attention. I could possibly have saved a few, but the question now is, as the spring so far has been very wet and cold, and they have made no honey so far, except to keep them, and I have also fed sparingly to induce breeding, would it be wise to buy, say half a pound of bees and queens, and fill those 60 hives, or would the hives be better to rest till a year comes to warrant honey?

While in Kansas City I visited Mr. Hayhurst. He is the most pleasant and accommodating gentleman I ever met; but all bee-men are the same, are they not? Every thing in Mr. Hayhurst's apiary was in good order; not a stray leaf seemed to fill the path of his bees, and he seems to be willing to Italianize all the neighbors' bees gratis, so as to keep up a good strain in the vicinity of his apiary.

CARRYING EGGS TO QUEENLESS HIVES.

One other question please answer me. Will it aid matters any to take the eggs of the old queen, after removing her from the hive, to a nucleus of one or two frames? Will it do to place her frames of eggs back in the queenless hive as fast as she fills a card, as she has only a few bees with her, and replace the same with sealed brood? Mrs. L. C. Donnelly.

Valmont, Col., June 14, 1884.

My friend, I am sure I am very much obliged indeed for your very kind opening words. It makes me feel, as such kind words often do, how much more I need, not only grace and wisdom, but strength from on high, to enable me to do the work that lies before me. Your first trouble, it seems to me, came from that visit. I have sometimes thought that bee-keepers had no business going visiting at all; but perhaps I had better modify it, and say they had better be careful how they make very long visits when their bees are not in proper trim to take care of themselves during your absence.—It is nothing very unusual to have a dearth of honey at almost any time in the season. In fact, we have here sometimes been obliged to feed almost through the whole month of June, but we had a good honey-yield after that. If you had a whole season so bad that forty colonies failed to give you honey enough for your table, I believe it is worse than any thing I ever knew or heard of. But even if you should have such an experience, I should by no means give up. If two sacks of granulated sugar were not sufficient to put the forty in proper wintering trim, I would buy more sugar, and continue feeding, no matter what it cost. If I should have *three years* with the seasons pretty much like the one we have been talking about, I think I should then give up bee-keeping, or try a new locality. I am loth to believe, however, that a locality can be found so bad as that. Were your bees not neglected when you were off visiting? It seems to me I could get the honey if I were in your place, although I may be mistaken. We have had some pretty fair reports from Colorado, I believe.—Bees do need water, and must have it. In localities where no rain falls, they usually practice irrigation, I believe, and this ought to enable bees to get all the water they want.—We divide our bees, instead of swarming them artificially.—You ask what you shall do with a yard full of empty combs. Keep them until they are needed; but protect them, according to directions in the A B C book, from the ravages of the moth.—No, I would not buy half a pound of bees, nor any other quantity. What is the use of buying them when they do you no good? Besides, if I am correct you have too many already. Why increase to so large an apiary until you know you can make them amount to something?—I am very glad to hear of your visit to friend Hayhurst.—You can take eggs from the queens and give to a queenless colony, and we often do this. Usually it is considerable trouble, especially where there are many hives to be worked in that way.—I have been thinking, since answering your letter, that it would not be strange if, by this time, you should be in the midst of a wonderful honey-yield. You will see, by looking over our back volumes, that such has happened a great many times to those who were just about ready to give up. When you have a better report, my friend, we shall be glad to hear from you again.

MORE ABOUT THE HONEY-DEW.

NO DOUBT NOW AS TO WHERE IT COMES FROM, NOR—WHAT IT TASTES LIKE.

THE honey season has not thus far been very good, as the bees neglect white clover to work on the production of the maple-bark louse, and a fine lot of the miserable stuff we have got, having extracted 50 lbs. from the upper story of a chaff hive, and, of course, the lower story is full. No doubt we can feed it back in the spring, but it will keep our bees busy to eat it *all;* but we trust their appetites will be as good as their disposition to sting, and there will be no danger but our poor honey will become *non est* in short meter. Hybrids have worked on red clover with us, and more honey has been obtained from that source than from white clover. In all our tramps through the woods we have failed to see a single sign of a basswood-bud, and only on a tree here and there in the open fields is there a sign of a blossom to be seen. No doubt the bark louse has destroyed them to a great extent, as they covered *all* our timber here to such an extent that on black-walnut the limbs look as if covered with tufts of cotton.

Prof. Cook speaks of the scale being ⅝ of an inch long; in this section it was not nearly as large; instead of lapping over each other they were piled one on top of another edgewise, and every way, completely covering the branches and main limbs, down on the body of the tree. Basswood, bitter-nut, hickory, and walnut were the most affected; and regarding the quality of the honey, we have H. H. Pease, on page 438, who tells it exactly, and we would add that a hog *won't* eat it, for we tried it, and the hog was hungry too.

M. W. Shepherd.

Rochester, Ohio, July 8, 1884.

By to-day's mail I send you a small tin vial of honey-dew, which we have here, quite a quantity of it in honey-boxes, and the brood-combs are filled with it. I don't fancy the taste; it is not bad-looking honey, but I am afraid it may hurt the honey market unless we are a little careful. It came from burr-oaks, hickory, maple, and on almost all of the trees. A few days ago I saw on the soft-maple a small round web, with a small worm inside. I sent a sample to A. J. Cook to-day; and on other trees I saw the leaves have a great many warts and little sacs on the under side. I have not stopped to see what is in them. V. W. Keeney.

Shirland, Ill., June 27, 1884.

A LETTER FROM CHINA.

A REFORM IN TOBACCO-USING AMONG THE CHINESE.

DEAR FRIEND ROOT:—Last year, about the 1st of December, we left this place for Shaowu, a city about 250 miles further inland, where we have a station. We got through in 13½ days of actual travel, and thought that doing well. The first 8 days' travel brought us to an out-station called Yangkeu. We found the helper in charge looking better than we had ever seen him before, and discovered the cause to be that he had quit using tobacco. After 9 days spent at this place we went on to another out-station in charge of a Dr. Ting, a native physician, who started the work there without help from any foreigner. He is a most earnest and devoted Christian. We soon found that he, too, had quit using the weed. Over two months before, he had come to Foochow to attend our annual meeting, and had traveled in company with another helper who had not used tobacco for several years. During the two days in which they were going from Dr. Ting's village to Yangkeu he had tried going without tobacco; and on reaching Yangkeu he found he had lost all taste for it. Upon this he decided to quit for good, and he and the other helper soon persuaded the Yangkeu helper to quit too. It was pleasant to us to hear Dr. Ting testifying that he had been benefited by leaving off tobacco, for the Chinese generally contend that a moderate use of it is healthful. A distant relative of his, who, on a former visit of ours to his village, had annoyed us by his incessant smoking, also informed us that, since the return of Dr. Ting from Foochow, he himself had ceased to use tobacco. We found, on this second visit, a great improvement as to the amount of tobacco smoke in the air when the church-members gathered for worship. At Shaowu also, we found that a majority of the church-members had quit using tobacco. After a time we went to another out-station seventy miles away, where were two helpers who had both been hard smokers. We found that one of them had broken square off, and the other took a pipe only occasionally, for manners sake. Now, the best of this is, that the whole change has come about without any effort on our part, except a little prayer and a few words spoken by Mrs. Walker.

We received 19 persons to the church. We were gone over four months, and, after the first 10 days, did not taste fresh beef. Still we managed to live fairly well; but when we got back to this place, some things did taste wonderfully nice. Here at Foochow there is a European community, and hence there has grown up a market in which abundance of good food can be bought.

Great changes are coming over the world, and now and then we meet with things which remind us of it. Thus, Australia used to be known merely as the site of an English penal colony; now we have here in Foochow a merchant from Sidney, Australia, who pays his Chinese employes seven days' wages for six days' work, in order to have them rest on the Sabbath. A few years ago I was conversing with a man who had just been traveling in Australia, and he told me of a railroad there, where at the stations not a drop of liquor could be bought openly.

In Foochow, the morals of the foreigners average better than they used to. Years ago, few had wives. Household affairs were in the hands of Chinese butlers, who had rare opportunities for making money out of their employers. Last year one of these butlers was overheard complaining that so many of the foreigners were getting married there was no more chance of making money.

During our inland tour I saw a number of beehives, entirely different from those in use here. They were in the form of inverted buckets, but somewhat larger and taller than common water-pails. A round cover constituted the top; and if the hive should be exposed to rain, the top is further protected by oiled paper. A number of notches in the bottom of the hive, each just large enough to admit a single bee, constituted the entrance.

On one occasion we (*i. e.*, wife, daughter of 10 years, and self) visited the home of two poor church-members, and there we saw a stand of bees domiciled in the drawer of a table. They had just swarmed, and the new swarm was clustered on a small tree near by. The bees were of a medium brown color, with light bands. There was one light band at each ring of the abdomen; and as the bees were full of honey I could count not three, but five bands. As our friends had nothing in which to hive the new swarm, they were going to let it go. I noticed a number of *black* bees around the old stand, and said to one of the Chinamen, "What are these? another kind of bee coming to rob?"

"No," said he, "the black ones are the males, and the yellow ones are the females."

When one of the black ones came buzzing around me he said, "Don't fear, it can't sting."

I must confess I did not know that the drones differed in color from the workers, but in this case they were almost jet black.

SPEED AT WHICH BEES FLY.

I have been trying to estimate the speed of bees, by the sound they make in flying. Sound is caused by impulses, or shocks, communicated to the air by the sounding body; in the case of the bee, by the rapid vibrations of its wings. Now, the pitch of a sound depends upon the rapidity with which these vibrations, or impulses, succeed each other. The pitch of the bee's hum is generally just a little below that of middle C; *i. e.*, the middle note between the base and treble clefs, which is produced by about 520 vibrations to the second. The tip of a bee's wing seems to move vertically about ⅓ of an inch; so, then, 500-3=165 inches per second, or 9½ miles an hour. Now, it does not seem probable that the forward motion of a bee can be much more rapid than the vertical motion of his wings.

Again, when a sounding body is moving toward a person, the effect is to crowd the impulses, or vibrations, together, and so apparently raise the pitch; while on the other hand, when it is moving away from one, the effect is to lower the pitch. The amount of change in the pitch depends on the speed at which the body is moving. With a speed of 40 miles an hour, the change would amount to one whole tone. The next time you happen to be at a depot when an express train is going by at full speed, with the bell ringing, listen, and you will plainly hear the change of tone as the engine passes by. Now, there is the same change of pitch in a bee's hum when he flies past one; but so far as I have observed, it is not sufficient to indicate, at the very most, more than 20 miles an hour, and probably not over 15 miles. In one case, however, where one bee was furiously chasing another, the change was more marked, and seemed to indicate a speed of perhaps 30 miles an hour. If a bee were to fly past at the rate of 90 miles an hour, the change in the pitch of his buzz would be about two and one-half tones. In a swift river, eddies are formed behind every curve or projection; and in like manner, where a train of cars is rushing through the air, eddies are formed at the rear of each car, and behind every projection. An insect in one of these eddies would find it very easy to keep up with the car, no matter how fast it might be going.

Again, when a body is moving quickly past us, it seems to leave a trail behind it, because the impression which the image produces in the eye lasts for about one-eighth of a second. To find how fast a body is moving past, multiply the length of its apparent trail by 8, and it will give the number of feet per second. One correspondent in GLEANINGS states that a bee makes an apparent trail of three feet; this would indicate a speed of 24 feet a second, or about 16⅓ miles an hour. Now, all this agrees pretty well with the statement of another correspondent, who says that bees, when carefully timed, are found to fly about 12 miles an hour. I don't understand just how this timing by a watch can be managed; but I presume our friend has found a way to do so; and if so, his figures must be taken as the most accurate and reliable of all. J. E. WALKER.

Foochow, China, May 22, 1884.

Friend W., I am very glad indeed to know that even away off where you are, this matter of reform in stimulants is gaining ground. It does seem as you say, as if some great changes were coming over the world. May God help us to hasten the work!

SO MANY QUEENS IN THE HIVE.

HOW DID IT COME?

AS I was passing neighbor Charles Prattsman's, this morning he told me something was wrong with his bees, as they had swarmed out every day for a week or more, and then would go back. I suggested that we take a look at them. The hive has 8 frames, with 8 boxes on top, each holding 6 lbs. when full. On opening we soon found a queen-cell which, on being opened, let a beautiful queen escape among the bees. Next frame we found the "old lady" as we supposed. We caged her. Continuing the search we found and caged three *other queens*. While at work, a large swarm settled on a cedar-tree near by, which certainly contained one queen. Mr. P. took the swarm down and put it at the front of the hive, when they again settled on the cedar. He then put them in a box and left them, when they got quiet.

I will say, that we have had a great deal of rain in the last two weeks; was that the cause of so many queens? We cut out 7 or 8 cells, sealed and nearly ready to hatch.

Sourwood is in bloom, as also chestnut, from both of which we would get a great deal of honey and pollen, if there were not so much rain. Mr. P. gave me two of the queens, and I have just placed them in nuclei, it being my first attempt at such division. I will let you know the result. Please let us know your opinion of so many queens together.

J. D. HOLT, M. D.

Tullahoma, Tenn., July 1, 1884.

Friend H., your case is nothing very unusual. The bees were getting ready to swarm, and perhaps were delayed by bad weather. Why the swarm came back that went out is not very easy to tell, but very likely the old queen was unable to go with them. During the swarming season we often find several young queens in the hive together; in order to save them I should divide up such a hive, giving each queen a frame of brood and some bees. These queens often make some of our very best.

SOME HINTS IN REGARD TO SHIPPING HONEY TO A CITY MARKET.

FRIEND TWICHELL GIVES US SOME VALUABLE SUGGESTIONS.

HAVING inquiries as to my reason for discouraging the use of dovetailed section boxes as reported in my address before the Western B. K. A., I will briefly explain as follows:

The best section box for all uses is the strongest, stiffest, and lightest. Strength is required, that they may hold together well; stiffness, that they may not give at the corners, and get out of shape; and lightness, that there may be no more wood than necessary, sold for honey. My experience in having comb honey overhauled on its arrival is, that the best-conditioned crates are always those containing the strongest and stiffest section boxes, which have protected the combs against the jarring of the crates in handling. I don't wish to be understood as deprecating the use of dovetailed boxes more than any other kind that haven't good stiff corners.

As an additional means of stiffness and security to the combs, I would strongly urge the use of glass, firmly fastened on each side of the section, and fitting as closely as possible to the inside of the box. It is better that the inside corners of the pieces forming the box be rabbeted so as to make a shoulder for the glass to fit in. This forms at once a stiff, solid, and tight box in which the honey will stand any ordinary handling, and carry safely by freight any distance. This is absolutely necessary for the shipping trade, and I have almost made up my mind to decline shipments of honey put up in any other way. If some of my shippers could see the amount of work and worry, and mixed-up messes that they have occasioned me, not to mention the loss to themselves, they would certainly institute a general reform in the manner of preparing and packing their honey. Out of nearly 1000 packages of honey prepared in the manner suggested above, and packed in crates of not over 25 lbs., with good handholds cut in the ends, there has not been 100 lbs. loss to the shippers; while on the contrary, out of the same quantity received in other shapes, I venture to say that, after having done all I possibly could to save it, there was still an average loss of not less than 10 per cent. For the immediate home trade it does not make so much difference; but for shipping it must be made secure against the rough handling in transit.

While on this subject there is one other suggestion I would make; that with regard to color. No comb honey that is dark, no matter what the quality or flavor or condition, will sell as well as the white, and it will always hang as a drug on the market, and finally be forced off at a sacrifice, or thrown in to make a bargain. This honey, though, if extracted, would sell very readily at 7 to 8 cents, and the wax at 20 to 30, and really net more, in a shorter time, than if shipped in the comb. But choice white comb in good condition will always find a ready market at this place, and bring a fair price. The 2-lb. sections will be the favorite by about ¼ majority; 1-lb. will follow closely at about 1 cent advance over the price of 2-lbs., and a few ½-lb. sections may be sold at still 1 or 2 cents advance. The ½-lbs. need not be glassed to carry safely. Larger sections than 2-lb. should never be sent to the market.

JEROME TWICHELL.

Kansas City, Mo., July, 1884.

Friend T., you do not mention *one-piece* sections, but I presume you would include them under your remarks in regard to dovetailed sections. I presume one-piece *nailed* sections might answer a better purpose; but if I understand you, you would have the wood a little heavier than we ordinarily make it. It seems to me good strong crates, such as we furnish, ought to be sufficient to keep one-piece sections in good order; but I notice it makes quite a difference when the honey is fastened to the wood clear around. We have had some brought in this season where the cake of honey swung from the top-bar almost like a pendulum, and of course such would not be fit to ship. The combined crate and shipping-case seems to answer well, for the honey is sent off in these just as it is lifted from the hives, without breaking the attachments the bees make, or lifting out a single section until it is removed from the crate by the retailer. I believe these have shipped well almost invariably. Who can tell us more about it, for it is a matter of most vital importance?

WHAT SHALL WE DO WITH THE ANTS?

PYRETHRUM FOUND TO BE A SUCCESS.

I SEE in last issue of GLEANINGS that some of the friends are having trouble with the ants, as well as bees. Two years ago we had the ants make a run on our bank of honey. We found a train of those half-sized red ants leading from the foot of the stairs to the top, through a room, over carpet, and across another room to the honey-shelves, at least fifty abreast. I tried to get them to eat "rough on rats," but they would not bite, to do any good. So I happened to have a tin box of Persian insect powder (I suppose it is made of pyrethrum). The lid of the box was punched full of small holes, so as to form a dredger, and I sprinkled them with this powder from one end of the train to the other, and also on the shelves, and in less than an hour there wasn't an ant to be seen on the track in hunt of honey.

I have since used it in our pantry for the same purpose, with the same success. You can tell your readers that it is the only thing that will successfully dispose of them, and on short notice, and no danger.

Bees are doing only moderately, not so well as last year. Very few fire-flies. JOS. C. DEEM.

Knightstown, Ind., July 7, 1884.

ANOTHER REMEDY.

In July GLEANINGS, page 456, E. D. Howells makes the very pertinent remark, "How to drive the small black ant from the honey-room, and keep them out." We have in our village an ancient bee-keeper, far from being practical under the new dispensation of apiculture, nevertheless possessed of an occasional characteristic idea. His *modus operandi* is as follows: Purchase a very large sponge; fill the same with diluted honey or sweetened water; put the same in the honey-room or in the immediate vicinity of the colony annoyed by ants (I should fear robbing would result), and as soon as the sponge is filled with said nuisances (ancient declares they will readily occupy every available part of the sponge), submerge the sponge for a brief time in boiling water; remove it, jar out the ants, and repeat when necessary. I have no personal knowledge of its practicability X

Springville, N. Y., July 7, 1884.

VENTILATION IN HOT WEATHER.

ITS RELATION TO HONEY-GATHERING, ETC.

WHILE your advanced classes are busy with the important problems of reversible frames, artificial fertilization of queens, keeping queens out of the upper chamber, etc., I am away back at first principles. The hot weather has brought up anew the subject of ventilation. My entrances were all eight inches by three-eighths; but as too many bees lounged on the alighting-boards, I concluded that more air was needed, and raised the front end of the hives one-fourth inch. The weather growing hotter, there was an increasing number of bees on the alighting-boards, and I therefore propped the hives still higher—half an inch. This not seeming to be effectual, I took out the props from the back ends, thus giving a clear sweep of half an inch for the admission of air, the whole width of the hive in front and rear. I even doubt now if there is free enough ventilation, as, in the middle of the day, too many bees are on the alighting-board, and there is too big a roaring, caused by the fanning of the bees. How are we to know when the ventilation is free enough? If we adopt as a principle, that no bee has any business on the alighting-board, except the sentinels, my ventilation is still insufficient. It is to be borne in mind, that I am careful to place planks against each hive to keep off the direct rays of the sun. The grapevine shade, which you recommend in A B C, to be of any service in our latitude, would have to be about 30 feet high—our sun in summer being so nearly vertical. Our vines and trellis would have to range north and south; so arranged, they would be an excellent protection, except in the middle of the day, say for two hours. Do you know any objection to having hives open at rear as well as front? Of course, there is greater danger of bees bumping against one as he walks among them, but I mean any other objection. I have thought seriously of propping up the whole hive by a block at each corner. Would it be unwise to do so? BEGINNER.

Tuscaloosa, Ala.

Friend B., it is a fact, that we can many times get the bees to go in and go to work, by simply giving more air through the hives; and where the colony is very strong, and they persist in lying out, I should try to do it. If, however, they simply cluster over the outside of the hive during an unusually sultry afternoon, it would hardly be worth while to go over a large apiary and change the ventilation. Within 24 hours the weather may be so cool that this extra draft of air would nearly stop comb-building, and perhaps hinder brood-rearing; therefore I would endeavor to arrange the ventilation so as to average as nearly right as we can conveniently. Of course, a powerful colony needs a larger entrance than one of moderate strength. There is no objection to an entrance both front and rear, so far as I know, unless it is too much air during cool nights, and the difficulty you speak of. As the bees, sooner or later, settle down on either the one or the other entrance, I do not believe they thus prefer two entrances. Adam Grimm thought once he secured larger results in comb honey with hives where the bottom-board was entirely removed, than he did with the usual entrance. Now, this may be the case during a very severe protracted term of hot days; while other seasons, as they average, it would have the opposite effect. Experiment for a locality, and climate, and you will, in a few years, be able to decide just about the size of entrance that gives the best results. A hive made of single boards, like the Simplicity, would need more ventilation, to stand right in the sun, than double-walled hives like the chaff hives. If you will look in the A B C book you will see that we train the grapevines so their broad leaves extend pretty well over the whole top of the hive, and I think the grapevines could be trained, even in your locality, so as to meet all requirements.

HOW TO INTRODUCE A QUEEN SAFELY.

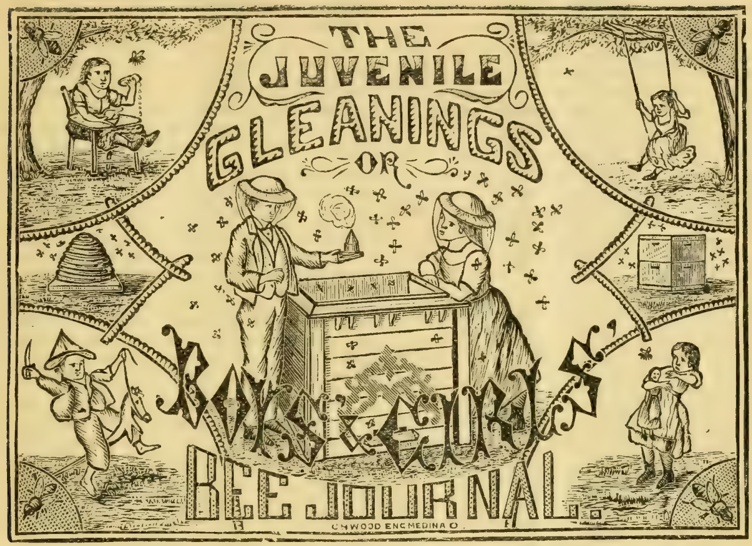
A CAGED FRAME OF BROOD.

THE safe introduction of queens is a subject upon which much has been written, and many plans have been devised to accomplish that object, all of which sometimes fail to bring about the desired results. After using all the plans known up to 1874, and failing with them, I next adopted what is now known as the Peet plan, or Peet introducing-cage; and after using it a year with entire success, I wrote to the bee-papers regarding it, telling how to make the cages, etc.; and the success of the plan in later years, has proven that said plan was better than any previously adopted. But after a little I occasionally lost a queen by this plan. Especially do I find that the worker-bees which come with the queen (when procuring a queen from a distance) add much to the liability of a loss of the queen, for the bees of the colony to which the queen is to be introduced are more hostile toward these bees than they are toward the queen, often causing a fight between them when they first come together, thus endangering the queen. When using said method of introduction, I always disposed of the workers which came with the queen, after which I was generally sure of success, yet not always. When a loss did occur it was quite apt to fall on a valuable queen coming a long distance, so that the loss was more keenly felt. Desiring a plan that I knew would never fail, no matter whether the queen was worth $50 or a virgin queen not worth 10 cents, I began to look about for such a plan. That a queen could be let loose on frames of hatching brood with a certainty of success, providing the brood did not get chilled, or some hole was left so the queen could crawl out and die, set me to thinking that if a frame could be made that would go in the hive, into which a frame of hatching brood could be slipped, that I would have the thing complete, for the heat from the hive would keep the brood from chilling. Accordingly I got out two pieces of wood, ⅛ inch larger than my frame was deep, by 2 inches wide, and 3-16 thick. On to these pieces I nailed a strip of wire cloth long enough to go clear around, except the top. This wire cloth was wide enough so that the space between the pieces was ⅛ inch more than the outside width or length to my frame. In the center of the upper end of each of the two wooden pieces I made a mortise the exact size of the top-bar to the frame, while a cover was made attachable to the cage, which would closely cover the top, when it could be tightly secured. Into this cage I could slip a frame of hatching brood, let out my queen and the few bees that came with her, secure the cover, and hang the whole in the center of a colony of bees, the cage taking the place of two frames. Of course, the frame of hatching brood should have a little honey along the top-bar as feed for the bees while they are thus confined, as the bees from the colony will seldom feed them. I now leave the cage for 5 or 6 days, by which time the cage will be filled with bees, if a right choice was made when securing the frame of hatching brood. The cage is now taken to a hive standing where we wish our new colony to stand (for a new colony it will soon become), when the cage is to be hung in the hive, and the cover removed. Next, lift out the frame of bees and brood, upon which you will see the queen, for by this time she has become the adopted mother of the little colony, and filled the cells with eggs. Set the frame in the hive together with one of honey, and move up the division-board to suit their wants, and the work is done without the least possible chance of a loss. If you wish to build them up to a full colony, give another frame of hatching-brood in a few days, and in a week or so a second, when, by the end of a month, you will have as good a colony as any in the yard. I have now used the above plan for two years, and can say that I have at last found one plan to introduce a queen which will always prove a success, even with those having but little experience. Those having a lamp nursery can hang the cage in that instead of a hive of bees, if they prefer, as the result will be the same if the heat in the nursery can be fully controlled.

G. M. DOOLITTLE.

Borodino, N. Y., July 2, 1884.

Friend D., the above arrangement has been used, off and on, for a good many years. After your mention of it in the *A. B. J.*, some time ago, we had several orders for them, and we have kept a few in stock, although we have never advertised them. As you have called attention to the matter, I think we will have an engraving made. The only objection I should have to the plan is, that it is a good deal of machinery for introducing a queen. I have never succeeded in getting the queen to lay very much, unless the workers that go out of the hive every day could have access to the cells where she deposits her eggs. Although I have never known a failure with this plan, I am a little inclined to think that cross hybrids might, during a dearth of honey, take exceptions to a queen introduced even in this way.



He that is faithful in that which is least, is faithful also in much.—LUKE 16: 10.

MYSELF AND MY NEIGHBORS.

If any of you lack wisdom, let him ask of God, that giveth to all men liberally, and upbraideth not; and it shall be given him.—JAMES 1: 5.

HONEY from basswood has about stopped, or, at least, it does not come to amount to much of any thing. Early in the morning there is quite a roar of bees for a couple of hours, and then it is over. I presume the reason is, that such a very large force in one locality, in the course of a few hours, visit all the blossoms, and exhaust all the field, very much as an ordinary apiary exhausts a ten-acre field of buckwheat in a few hours in the morning. Another cause is, I presume, that so many of the trees have been cut down for sections. At any rate, robbing has commenced; our bees are coming into the wax-room, and around the factory. One colony was used up entirely, simply because it did not have the right kind of entrance; and while I think of it, I do not know of any better kind of entrance for Simplicity hives than the entrance-blocks, or alighting-boards, to regulate the size of entrances by sliding the hive backward or forward.

There is something sad about this closing up of the honey season. The bees get cross and quarrelsome and thievish and greedy, and it does not seem as if they were the same little chaps that were so peaceable and merry, only a week or two ago. Now, little friends, it is not altogether the bees that get out of sorts when honey stops coming. From the complaints in the letters to-day, it seems as though there were a great many who are disappointed and dissatisfied; and, come to think of it, I am one of that class too. Why, it seems as if we never had so many trying cases as we have had this afternoon from that purple basket. Our good neighbor Henry Palmer, who lives right near by, right in Michigan, sent us a little bit of an order a week ago. I had not heard from him for a while, and I was really glad to receive just that little bit of a letter to let us know he was still a bee-keeper. Among other things, he wanted some 1¾-inch wire nails. When he got them he said they were not right—they were only 1¼ inch, and that, as he wanted them badly, he came pretty near getting mad about it. It was about the Fourth of July when the order came, and not many of the clerks were at work; but I told one of them to be sure to send him the right nails by the next express. They did so; but to-day he says we have gone and sent 1¼ *again*, and that he does not see any excuse for such blundering. This time he tells us that the printed wrapper called for the right kind, but that the contents did not agree. Oh dear! oh dear! Mrs. C., who has charge of the sample-room, was sick a day or two, and some of her girls went and did up a lot of 1¼-inch nails, and put them in papers labeled 1¾. Another man, who is in a great hurry, and losing his honey-crop, got a short arm for his extractor, when he wanted a long one; a third pleads piteously for us to hurry up his order; but we can not find such an order, or any trace of it. In fact, our orders are all filled, and we are hungry for more. And this last observation reminds me that some of the hands whom I had decided to keep if I could, because they needed work badly, having but little to do have got into mischievous ways. You know what Satan always finds for idle boys and girls to do. And, by the way, I have been studying, and praying as well, over this problem of finding something useful for those to do who depend upon me for the means of getting a livelihood. What shall we do in the fall of the year, when the great roar of swarming time is past? Make up goods for another season? We might, dear friends, but it takes a mint of money to keep every thing going at full blast, so long before the goods are going to be wanted.

There is one kind of work that makes me feel happy every time I think of it; but it is with sadness I am compelled to realize that but very few, comparatively, love the work. Do you want to know what the work is I am talking about? I mean working in the ground, raising garden stuff, fruits and berries, and doing it intelligently. I wonder if any of *you* want to know what to do along in these July days. There is a great deal in making work pleasant. Did you ever realize it? God has blessed my efforts here in the factory, in trying to make work interesting to the boys and girls, and there are hundreds who will work here for me in the factory, when they would work hardly anywhere else. You might ride miles here in Medina County to find a good girl to do housework; but they will come to work here in our wax-room, or even in our kitchen, and they will wash and bake and iron and stew, and wait on the table in the lunch-room, and like to do it too. And why, do you suppose? There are three reasons that I think of; one is, that we have a pleasant, good-natured lot of people around here, and almost everybody likes to see us all so busy. Another thing, most of our rooms and tools are pleasant to work in and with. Another and greater reason is, I think, that here there is no aristocracy. Only one thing places one hand above another, and that is skill and fidelity; and every one has the privilege of raising himself here if he pleases; in fact, I think most of them know that I rejoice at the opportunity of rewarding intelligence and energy, in almost any department of our business. Now, if I could teach these young people who come here, how to work at home in the same way they work here, what a grand thing it would be! We do teach a great many of them bee culture, and they succeed at home with it after they leave here. But in most localities we have to wait a good while for an income from bees. It comes only at certain seasons; and besides, I should be afraid to advise everybody to spend all their time in bee culture; in fact, I could not do it. Now, in tilling the soil and raising the necessaries of life, there is no danger. When you become expert in making seeds grow, and raising large crops of any thing wanted from day to day, you are independent, no matter where you are. Why do not more people love gardening? I have watched and studied into the matter, and it has seemed to me it was because their gardens were uninviting, and the labor to be done in them was fatiguing, and mostly but poorly remunerative. Take a peep at the market gardens near the cities. Who would not like to turn in and help? What boy is there, or girl either, who does not delight to pick peas and strawberries, when they are large and fine, and it takes only a few minutes to fill a basket? We almost all of us love to do work when the work succeeds, and a bountiful crop rewards our labors. Another large class of people are willing to work, and love work, if they only knew just what to do and how to do it. They want some kind friend or teacher, as it were, to guide them safely, and to help them to avoid mistakes—one in whom they have confidence, and in whom they can put their trust. Did you ever know, my friends, how full of wants I am? It seems to me there never was a human being who wanted so many things as I do. I want better helpers than the world furnishes; I want wisdom and understanding; I want skill; I want dexterity; I want accuracy; I want infallibility. I believe it is right to want all these too, for God knows I do not want them for selfish purposes or selfish ends. I want them that I may help humanity; that I may help you, my friends. I want about a dozen different people to take charge of the different departments of our work; to look after the boys and girls; to cheer them up in their efforts to be not weary in well doing, and to teach godliness and righteousness.

Just now I want a market gardener to direct us in working our eight or ten acres of ground. You might be apt to think this is an advertisement for a man; but when I tell you what I should want embodied in one single human being, perhaps you will think I shall have to want.

I wrote to a friend in the city that I wanted a man who did not drink, swear, nor use tobacco. After that I told him I wanted him to love children, and then, besides, I wanted a man who is educated in every thing that pertains to the business of raising fruits and vegetables; one who knows all about underdraining and irrigation; one who was sufficiently conversant with manures to tell me just what to buy, and not waste my money; one who won't make the blunder of doing hard and laborious work with his hands when it might be easily done with horses; one who knows all about getting the best seeds that are to be had in the world, and who is so familiar with garden seeds that he knows just when to plant them, and how to make them do their very best; one who could tell us the very best way to utilize not only the manure from our stables, but all accumulations of filth of every description, and how to work it with the least labor into plant-food; one who would not make the common mistake of doing work with his own hands that a child ten years old could do just as well, or even quicker, with his nimble fingers and bright young intellect; one who would be capable of teaching children accuracy; one who would not overwork their powers of body or mind either, but would keep constantly in mind that his business is to love God and his fellow-men above every thing else in this world. Then I should want this man to love his business—to be an enthusiast, as it were; I should want him to work as hard for me and my boys and girls as if it were all his own. I might want this latter, but I do not believe I should expect to find it here in this world. I should want to have him have a faculty of making all the operations of gardening and seed-growing so fascinating that every boy and girl would be found as anxious to work for him as they are for me.

Now, dear friends, I have no expectation of finding such a man anywhere in this world —no, not any thing near to it; but I do expect nearly all the above qualities could be found in perhaps half a dozen, and I expect God will help me to find them. May be I shall be able to find them all here. I have already found a good many who rejoice my heart by showing great promise, and by taking important positions in different departments now in our work. But the great need, after all, is for a wise and kind and God-fearing leader. So you see, when we get right down to it, the one great pressing want is for a better man in my place, or, if you choose, a developing and growing and enlarging of my own heart and soul. I feel encouraged to work and pray; for have we not the promise, dear friends,—

> Ask, and it shall be given you; seek, and ye shall find; knock, and it shall be opened unto you?—MATT. 7: 7.

MRS. HARRISON TELLS US ABOUT THE BEES IN PEORIA.

SOME OF THE ANTICS THE SWARMS HAVE BEEN CUTTING UP.

CHILDREN, you have all heard of the robber-bees, haven't you? But did you ever know of their stealing any thing but honey? I have; they stole a bird's house that is up in a tree, and are filling it with honey as fast as they can. Rather romantic dwelling-place, up in the top of a high tree, in a miniature cottage, with make-believe windows and chimneys, and doors, with a real portico. The owner of the bird-house says I had better "look a leetle out, since he has gone into the bee-business."

Bees are cutting up all sorts of antics in our city, and the police are arresting them for disorderly conduct almost every day. They arrayed the Soldiers' Monument in mourning, and made the eagle on top of the shaft look quite natural. A number of swarms have clustered in the trees of the court-house square, and paid not a bit of attention to the placards, "Do not step on the grass." Some have been bold enough to cluster near the City Hall, and the calaboose is under it.

I'm sorry to tell this on the bees, for I'm afraid they are not just right on the temperance question. As the band was marching up the street this Fourth-of-July morning, playing national airs, a large swarm clustered on a green tree that was fastened in front of a saloon, for a decoration. Now, boys and girls, here is a chance for you to use your musical powers for a practical purpose. Instead of rattling on the frying-pan with a key, to settle a swarm, get out your violins, accordeons, jews-harps, etc., and play Yankee Doodle Dandy.

Peoria, Ill. MRS. L. HARRISON.

THE FAULKNER CHILDREN AND THEIR BEES.

HONEY FROM THYME.

WHEN my brother Shirley robs his bees I go out and help him. He has five hives. The first hive that he robbed had some very fine honey in it. Does thyme make bitter honey? Here is the flower of a sensitive plant. E. K. FAULKNER, age 11.

Bayou Current, La., June 13, 1884.

I did not know that the honey from the thyme was bitter. The celebrated honey of Mt. Hymettus is said to have been gathered from a species of mountain thyme, so it ought to be good.

HOW THEY GOT THE SWARM DOWN FROM THE TREE.

I am a farmer's daughter. I have five brothers, and my oldest brother is trying to raise bees. He started with one hive, and now has five; he has two or three trees in the woods to cut, and I think he will try to save the bees. His first hive never swarmed till the first Sunday in June. They were just leaving the hive, and he stopped them, and then they went back to the hive, and the next day they swarmed on a tree close to the little yard that he has his bees in. He could not get any one to help him, so papa helped him. The next morning they tied one end of a pole to the tree, and the other to the limb that they were on, and then sawed the limb off, and let them down slowly, and did not kill many. MARY C. FAULKNER, age 12.

Bayou Current, La., June 12, 1884.

THE RUNAWAY SWARMS.

I am not afraid of bees if they do sting me sometimes. Brother Shirley has five hives of bees. He has robbed two this spring; he did not get much honey out of one of them, and thinks there were moths in it. A great many swarms have passed over, but we caught only one of them. This is my first letter. I am afraid you will not think it worth a book; but if you think it is, please send me one.

L. FAULKNER, age 8.

Bayou Current, La., June 10, 1884.

A TRIP TO THE SEASIDE.

MRS. HILTON'S TALK TO THE CHILDREN.

DEAR CHILDREN:—As it is the season of picnics, I must tell you of our trip to the ocean at Point Sal (or Salt Point). The big four-horse wagon was rigged up, and, after putting in provisions and bedding, we bundled in the babies and other live stock, and wended our way singing merry songs, and making quaint remarks about the scenery. Some saw battlemented terraces on the hill-tops, where the rains and sheep had worn the earth away from the chalky hills; others saw jack-rabbits, cayotes, and quails, and one thought he saw a deer, but it was only a lone cow. After an eight-hours' ride, broken only by a short stop for lunch, we arrived at the grand old sea. The sea, the sea, the dashing old chap that I like to see, sang some.

How differently the first sight of the sea affects some people, some feeling only fear, others admiration, others almost a feeling of irritation at the never-ceasing dash and roar. But all such feelings are moderated after an hour or two. When we had got camped for the night, some in a friend's house, others with the horses, we found we were too tired for any thing but visiting and bed; but in the morning, "Fresh fish!" was the cry.

"Well, I declare! if you haven't been to the wharf fishing, already! Yes, and we want some for breakfast."

So we rush down to the wharf company's disused cook-house, and got our breakfast ready. How we enjoyed the fish! After breakfast, all hands must go fishing; but as some of the little ones were hard to watch, we went down to the shore for sea-weed and shells. Such merry times we had! Sometimes a wave would bring a nice piece, and just show it to us, and then rush back with it before we could get it, and the venturesome ones would rush after it, only to be driven back by another wave; and such shouts when the waves would catch them! The return was enlivened by the chatter about who should have some of the sea-weeds nicely pressed, and how they would send it to friends back east, as we say here.

After a nice fish dinner, a bath was in order; so we went down toward Seal Rock, and took a wash in the salt sea-waves. Oh it was so nice to have the big waves dash over one! For fear of under-tow, we tied a rope around the little ones. They thought it was fun, but rather cold. While there we heard a cry like the cry of a woman. We were told it was a seal; and if we would look through a glass, we could see them. Sure enough, we could see them by the score—some monstrous ones, others medium, and others small and spotted—the babies, I suppose. We were told that the males were ugly, and punished their wives, and made them cry; so we did not like them after that—the big ones, I mean; but the others looked very pretty. Were you ever near one? They are pretty. Their fur is fine and glossy, and they have pretty-shaped heads, and beautiful eyes, with a kind of appealing look to them.

The next morning we thought we should like some mussels; and so, the tide being low, we started off. About a mile from our camp we found rocks that we could get on to for mussels. The mussel-gatherers put on bathing-suits, for the best mussels were on the edge of the rocks that were splashed by the waves. When an extra large wave dashed over us we would all shout, in spite of ourselves, as it would come so suddenly, and we had to cling to the rocks for dear life; but we saw some lovely sea-anemones, and great star-fish, as big as a dinner-plate, and some not larger than a silver dollar. We tried to get some of the anemones; but when touched they would close around one's finger in such an unpleasant manner we decided to see without getting; but we got lots of mussels and abalone shells. We could not find any abalones, as the Chinamen had gathered them all. We were told about a Chinaman being drowned by an abalone. He tried to get it off the rocks with his fingers, and it shut down on his hand, and held him there till the tide came up, and he was drowned. When found by his friends the next day, he was hanging by his hands.

Those who dared not venture after mussels went hunting after curiosities. They came back quite excited. They were going up a little creek, and there before them was a half-grown seal. It was very much surprised and so were they; but the seal got back to the ocean before they got their wits together enough to see how easily they could have caught it, if they had only known it was there. On our return we stopped to visit a friend, and the children were delighted by a lovely spotted fawn that was kept as a pet. We had enjoyed ourselves so much we thought we must go again to the seaside the first opportunity. MRS. J. HILTON.

Los Alamos, Cal., June 9, 1884.

ONE OF THE JUVENILES PROPOUNDS A QUESTION.

WHY SHOULD NOT THE BOY WHO HAS NEVER USED TOBACCO HAVE A SMOKER?

I READ in GLEANINGS that you would give a smoker to any bee-keeper who used tobacco, and would promise to permanently give it up, or refund the price of the smoker, if he recommenced. Now, to begin with, I am a boy 16 years of age, and own a small apiary. I never have had, and never shall have, the habit of using tobacco in any form. Now, in your estimation, am I not entitled to a smoker? or is it the *old* and *hardened* sinner only who gets the reward? I think he that never sinned is equally good, therefore equally deserving of reward. Are you not of the same opinion? I shall hardly expect one, but would be *awfully* thankful for a smoker "all the same."

Hoping that this will at least be read through, I remain WALTER E. GAYHART.

Sylvania, Ohio, June 30, 1884.

My young friend, you plead your cause pretty well for a boy of 16 years. The question has been raised a good many times since my offer to tobacco-users, and many older heads than yours seem to be a good deal puzzled over it. A few years ago somebody said I would not give a boy employment unless he first got drunk and got into jail, and that I was actually paying a premium on dissolute habits and bad behavior. This same question is often raised when any reform is started. If you will turn to Luke 15:25, you will find that the older brother of the prodigal son was angry with his father, and remonstrated because he made more of the one who had always been wrong than he did of the obedient son who had stayed at home and worked faithfully. He says, "Lo, these many years do I serve thee, neither transgressed I at any time thy commandment, and yet thou never gavest me a *kid* that I might make merry with my friends." If you read a little further you will see what his father replied. Now turn to the fore part of the same chapter, and you will notice in the parable that Jesus spoke of the man who left his ninety and nine sheep, and went out after the one that strayed in the wilderness.

Suppose I should broadly declare I would give a smoker to every man or boy who never used tobacco; would any good be accomplished in this way, even though I expended a large amount of money in the operation? Do you see the point, Walter? It *is* true, I might offer a smoker to every boy who would give me his promise *not* to use it; but even then, would it be just the thing to send a smoker to the thousands who probably would not under any circumstances think of doing such a thing? I have sometimes felt a little troubled for fear some unprincipled or unscrupulous boy might begin using tobacco just for the sake of breaking off, to get a smoker; but a little more reflection assured me that no boy could be found who would do such a thing for the small sum of fifty cents. The offer is intended for those who took up tobacco before they ever saw GLEANINGS, and who have been honestly thinking they would like to break off. The smoker is a little pledge, as it were, or an object lesson, to remind them of the promise they have made here publicly before not only good men and boys, but good and respectable women. I certainly would not take a boy into my employ whom I had reason to think purposely got drunk and into jail, to enlist my sympathies. I can usually tell by talking with any young man whether he is really penitent, and honestly desires to reform; and, dear friends, I think I can tell pretty well from the way a letter is written, whether it comes from an honest heart or not. I did not know at first how the Tobacco Column was going to work; but I knew that I hungered and thirsted for a reform in tobacco-using, and I remembered God's promise; and I am sure we have all been forced to admit that his blessing has followed the little offer, and that, too, quite abundantly. Do you not rejoice to see the work going on, Walter? and have you not saved money enough to buy a great many smokers by being brought up in such a way that you would probably never think of using tobacco anyhow? Jesus said, after speaking of the lost sheep, "I say unto you, that likewise there shall be joy in heaven over one sinner that repenteth," and we are laboring for *true* penitence, are we not?

OUR FIRST SWARM OF BEES.

BY A "BEE-WOMAN" 16 YEARS OF AGE.

I THINK I must tell you and the friends of GLEANINGS of our first experience in bee culture, if you think it worth printing. In the first place, last fall we got the "bee-fever," and father went straight away and bought one skep with a strong full-bred Italian queen and a strong colony of half-breeds. Mr. Bennett let us put them in his cellar with his bees (I think he was real kind), and in the spring they came out strong and healthy, and ready for hard work.

The first swarm, which issued the tenth day of June (that isn't at all late for us up here in Minnesota) was unusually large; and besides that, they swarmed in such an inconvenient place that we "greenhorns" hardly knew how to go about it, for neither father nor I had ever seen bees swarm in our life, so I think you won't laugh. They first came out of the hive, scattered and flying around in every direction; then father threw some water among them, and they clustered around the trunk of a little oak. We were quite as excited as the bees by this time.

We brought the hive, a couple of sheets, a chair, and box to stand on (we have no step-ladder yet), and a basket to brush the bees in, some sweetened water to put in the hive, and a roll of damp cotton cloth to smoke them with (my father doesn't smoke), and some other necessary articles. Then came the "tug of war;" viz., to get the bees down and put them into the hive. Father brushed them into the basket, but they were rather unruly little creatures, and *would* fly right back to the tree again. There was a little twig full, and papa cut it off and put it near the hive. Some went in and came out again; then more went in, and more, till nearly all of those were in. But not one quarter were in yet, and such a time we had! I believe papa was a little bit discouraged, but by and by we *did* get them all in with one sting for father, two for mother, and *one* for me, right under my right eye, that swelled up and pained very much.

They seemed to like their nice clean new home (a Langstroth hive that papa made, and of course it was better than the old one that they were in before, for my father is a first-class carpenter), and they went right to work.

The next day father went to town, and, sure enough, those bees had to go to work and swarm again. We didn't have so much trouble this time, for we had had some experience in the matter, and, better than that, they swarmed on a *limb* of that very same little oak.

My sister Blanch, 13 years old, climbed up in the branches, and sawed the limb off while I held it, and then handed it to mother, and she put them in front of the hive, and they all marched in like little soldiers.

Now I will state what *I* think caused them to swarm the second time. It couldn't have been because the hive wasn't clean, for it was, and they liked it at first, because there was a piece of the whitest and most beautiful comb I ever saw, about three or four inches long, and one and one-half wide, hanging from the top of one of the comb-frames. The reason I think they swarmed again, and I think you'll agree with me, was that there were so many little red ants in the hive. When I first opened the hive that we had them in when they first swarmed (when they swarmed the second time we took another hive), there were over a hundred little red ants in the hive. I suppose the sweetened water had something to do with bringing the ants; don't you? Do you think that our remedy will keep the ants away? We put fresh ashes under the hive, and chalked the sides.

Does any one know of any other way of getting rid of ants? I want to say right here that I am decidedly on the right-hand side of Mrs. Harrison, and all the other ladies who think bee culture a suitable occupation for women. Remember, I'm not a juvenile, for I'm sixteen. No "blasted hopes" as yet. We haven't got around to take the A B C nor GLEANINGS yet, but are going to soon, for we are going into bee culture in good earnest.

ALICE REDOUTE.

Alexandria, Minn., June 12, 1884.

Well done, friend Alice. We take the liberty of sending you GLEANINGS one year for your little story so well told. No doubt the sweetened water was the cause of the whole trouble. The red ants are getting to be quite a nuisance. They have recently got into our lamp nursery, and have destroyed quite a lot of queen-cells. The boys tried putting oil around the nursery, and such like work; but I told them there was no way but to set the lamp nursery on legs, and stand the legs in dishes of water. These small red ants seem to have a faculty of not only making themselves very obnoxious to bees, but they will kill live queens in a very short time, if left caged where the ants have access.

JUVENILE DEPARTMENT

Every girl or boy, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock, six different books, as follows: Silver Keys, Sheer Off, The Giant Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

"A chiel's amang ye takin' notes;
An' faith, he'll prent it."

WELL, little friends, Huber can walk finally. You know his papa is a Yankee, but his mamma is one of England's fair daughters. Well, the English are noted, as you may know, for being cautious, and also for being somewhat stubborn: they have their own notion of things, and they have a fondness of wanting to get things in their own way. We felt sure some time ago that Huber could walk if he would; but instead of being in such great haste to try every new thing, as the Yankees usually are, he took after his ma enough to decide he wouldn't walk until he got ready; and therefore no amount of coaxing or driving would make him venture away from the chairs and walls alone. One day, after I had been trying to get him to walk just a little, I happened to look into another room where he was alone, and I found him very slowly and cautiously promenading all alone by himself. When he saw me he sat down very suddenly. You see, he wanted to work the thing out without being bothered. Well, he kept on that way for nearly two weeks; and now he has got the thing at his fingers' ends (or, perhaps, I should say, at the ends of his little fat toes), so that he just paddles about from morning till night, first in one room and then in another, then outdoors, if he can get out. He goes pretty safely, and does not get many bumbs, except when he comes to a "down grade." His ordinary good sense and discretion seem to fail him here; for when it is down hill he just puts on steam, the same as if it were on level ground, or up hill; and when his little fat legs can paddle no faster, down he goes with a bump; and as he has not yet learned the knack of saving himself by his hands, his little pug nose often gets flattened by the cruel hard floor. Yesterday he made it bleed; and before he could catch his breath he wiggled his little head, writhing in pain. Poor innocent childhood! I suppose there is no way but to take the bumps.

He got up into the large office yesterday, and such a smooth large floor seemed to be the finest promenading ground he had ever found. He just made his little feet spin, and flopped his hands, and crowed, and acted for all the world like a young robin just out trying its wings for the first time.

Sending up the little balloons is one of his rarest sports; and just the minute he sees me coming with a package of them, he begins to crow, and explain how papa is going to send them "a up *high*."

The morning of the Fourth we had a half-hour prayer-meeting from eight to half-past eight. It rained some, but we decided to go for all that, Huber and I. He sat up in the buggy, and drove old Jack, and enjoyed himself hugely. We had never taken him to meeting, but I thought I would risk him this once. They were engaged in prayer when we went in. He waited quite a spell to see what was going on; but the sight of so many bowed heads in so large a room was too much for his curiosity; and before the minister had got through, he plied his papa with a great many questions of his own, after his own baby fashion. But, Bro. Ryder has got a baby-boy at home, and so he did not mind the interruption. After the prayers we sang

"Come, thou Fount of every blessing."

He listened quite a while, but finally became so filled with the inspiration of the music that he could not keep still any longer, and so he joined in, in his baby voice, and succeeded in making some considerable merriment, even if he didn't keep in tune all the while.

Don't you think it is a happy thing to have a morning prayer-meeting on the Fourth of July? I am sure Huber does, any way. When he crawled over to me that night, and laid his tired little frowsly head across his papa, to go to sleep, it seemed to me it had been a very happy Fourth of July; and the happiest part of it was the hour spent with Huber in the morning. It is our privilege, dear friends, to lead these little ones from death unto life; and who shall say it is not their province, in their own prattling way, to lead us, their parents, from *death* unto *life?*

Ma papa has between 50 and 60 hives of bees. I watch them, so when they swarm they will not go away. LILLIE M. LUKER, age 11.

Cold Spring, Ky., June 26, 1884.

ANOTHER SWARM-CATCHER.

My grandpa lives with us; he has 50 hives of bees; he sent to you for 30 hives; they have not come yet. He has a broad board, one end on the fence, the other on the ground, with a bunch of mullein-tops fast to the under side to catch swarms.

EMMA L. CLINE, age 10.

Fayette, Wis., June 3, 1884.

A YOUNG CANADIAN BEE-KEEPER.

My pa has 14 colonies of bees; we extracted 450 lbs. of honey. Last year was a good one for bees here. My brother and I go to school every day. We have a binder and hay-loader. I did all our horse-raking last year, and harrowing, and my brother and I were ready for the exhibition at Toronto. I liked the fair very well. I like to ride on the cars. My brother helps me to do the chores.

We have a dog named Watch. We have two colts, named Frank and Deck. **ALBERT McCURDY.**

Hornby, Ont., Can.

TELEPHONE TO TELL WHEN THE BEES SWARM.

I understood that you liked to get letters from little girls, so I thought I would write you one. I have two brothers and two sisters. I have one stand of bees, and pa has 18 stands. Vestal has 2, ma has 2, Eda has one, and Ettie has one. Pa has a tile factory, and is making lots of tile. He has some fine chickens too. I have been going to school this spring. I read in the Second Reader. Pa takes GLEANINGS. He has a telephone to tell when his bees are swarming. **DELLA REYNOLDS**, age 8.

Weaver, Ind.

ARE ANTS HARMLESS?

Last December, papa moved 25 colonies of bees about 400 yards, to a new location. A week after moving them the weather grew warm; then we noticed small red ants at work carrying out the honey from nearly every hive. A line of lean, hungry-looking ants would go in, and another line would come out, so loaded with honey that their bodies would be nearly transparent. Papa followed a few lines of them to their holes in the ground, just a few feet from each hive. We think you must be mistaken when you say in the A B C book that ants are harmless, as we are sure they were carrying out honey. In their old location, in an orchard, we noticed large black ants around the hives, but they did no harm that we could see. These ants are larger than the very small red ants that are so troublesome in our houses. Their nests are in the garden, and we don't know how to get rid of them, as they appear too numerous to destroy. I can not see why the water does not drown them out when it rains. We are afraid that, when the warm weather comes, they will commence their depredations again, and rob every hive. What shall we do to get of them? **CORA MAJOR**, age 11.

Cokeville, Pa.

Well, Cora, I think I shall have to give up about the ants. Your statement is quite convincing. Still, I am inclined to think that a good strong colony of bees, when undisturbed, would keep the ants away from the honey, without any trouble. In the above case, many of the flying bees were lost by moving to a new location, and this gave the ants a chance.

THE SWARM THAT ALIGHTED ON THE HAY-RACK, ETC.

Papa has been hauling hay lately, and one day while in Peoria a swarm of bees alighted on a hay-rack in the busiest part of the city. A man got a nail-keg, and papa put them into it, and afterward bought it for 75 cts. Early in the spring papa had 2 swarms, and now he has 8, which are all doing nicely. They began to swarm the 21st of May. One of them is a swarm of wild bees. There are two kinds, hybrids and Italians. The first morning they seemed uneasy, and papa gave them a frame of brood. They fought all day, but the next day they concluded to go to work. Three swarms got away, but we expect two more in a few days. Papa said he would give me 50 cents if I would watch them this week while he hauls hay. He has movable-frame hives, and does not intend to extract much honey. Papa and our neighbor, Mr. Bristol, made a starter out of a screen-door spring, which works like a charm; and one day, while papa was at Peoria, mamma and I put the foundation comb in 48 sections. This morning papa took the cows to pasture; and when he came back he had a nail-keg. We thought he had a swarm of bees; but when he opened it there were two little coons in it. I have no brothers nor sisters, but have four little cousins living close by, and we play together a good deal. **MABEL EDNA CASE**, age 11.

Dunlap, Ill., July 4, 1884.

Friend Mabel, I am interested about that door-spring starter machine. Can you not send it to us by mail, or explain how it is made? May be it will be better and cheaper than any thing we have had.

THE SWARM THAT SEPARATED INTO TWO PARTS.

I have been taking GLEANINGS a year, but will have to stop, as I have got no money. I have four stands of bees, and my brother the same. I had one swarm come out and separate. One part went about a third of a mile from the other. I got one swarm hived, and went for the other, but it was gone. I went back to the hive. I noticed that they had all gone. In a minute or two the swarm that was lost came back to the hive, and I found that they had no queen. I can work with bees, but my brother can't. I had a stand of bees that had too many drones, so I killed them. A swarm of bees will stay a week on a limb, for pa has seen them and hived them in an old gum-tree. My uncle followed a swarm of bees eight miles, and nobody owned bees within less than 2 miles of there. **A. E. BEVER**, age 10.

Burlington Junction, Mo., June 1, 1884.

Isn't that a pretty big story, my friend, about the swarm of bees going eight miles? He must have gone with a horse, for that would be a pretty long distance to chase bees on foot.

THE GOLDEN BEE-HIVE; TOBACCO; FOUNDATION IN FRAMES, ETC.

My pa has bees. He has bees and hives for sale. He has a bee-hive factory. A man is selling a hive he calls the Golden bee-hive. The people are buying, and piling yours in the fence-corner. Pa says the Golden hives are a swindle, and they will be glad to get the Simplicities yet.

Well, Uncle Amos, I read in GLEANINGS that you give smokers to those who quit using tobacco. My pa has not used any for about 14 years, and never intends to use it any more; and another man, a preacher, has quit too. He is a very old man, but I don't know his name.

Pa gives me 10 cents per 100 for nailing frames. I will tell you how he puts foundation in the frames. He takes a block of wood, and places it in the frame, then takes an oil-can of wax and fastens the starters in.

I like to go to Sunday-school. I shall soon be done hoeing the cabbage. I shall be 8 next November. I have two sisters dead, and two living. **STELLA V. MENDENHALL.**

Sylvania, Ind., May 29, 1884.

Friend Stella, just tell those people who are piling their Simplicity hives in the fence-corners, to set them down carefully, for in a little while they will want them again.—We give smokers only to those who stop using tobacco because of what they read in regard to it in GLEANINGS. I am glad indeed to know of a preacher who has given it up, but I am sorry to hear of any preacher who has been using it at all.—So you hoe cabbages, do you, and are not yet eight years old? Tell your papa that he ought to be happy in having such an enterprising little girl.

SOME KIND WORDS FROM A JUVENILE.

Papa keeps bees and takes GLEANINGS. He commenced with 7 colonies in the spring, and we have 24 now. Two swarms went to the woods after we had hived them; one of them was mine. Papa sent to you for his extractor, and it came yesterday evening; we are perfectly delighted with it. My little blue-eyed sister was the first one to extract honey, and she thought it fine fun. I love to read GLEANINGS, but I have never seen any thing said about holly being a good honey-producer. Our bees work on it finely. CLAUDIA BOLES, age 10.

Church Hill, Miss., June 3, 1884.

Holly was reported in our last number for the first time, my little friend. Glad to hear further from it.

NELLIE AND HER AUNT, AND THE DOUBLE SWARM.

My grandpa is a great bee-keeper, and he is gone to-day, and my aunt Cetta and brother and I had to hive the bees. One swarm came out, and another swarm that was going to swarm heard them, and it came out, settled in the same place, and four stung aunt Cetta on one arm, and it swelled up big. We got them divided all right. We got a queen in each hive. NELLIE LAPPING.

Floyd Knob, Ind., June 4, 1884.

You leave out one important fact, Nellie; that is, that bees often hear a swarm, and are induced to come out in consequence, where they would not otherwise; therefore it is well to keep this in mind in caring for swarms. Get them settled and hived as speedily as possible, and have things in readiness, so that swarms, should they start out, may be quickly cared for.

LOOKING OUT FOR MISHAPS.

Pa wintered a few late colonies in the cellar. In the spring the drain got stopped up, and the water came in level with the bee-hives, so that we had to move them earlier than we would have done if it had been dry. Bees we wintered outdoors did well. We have over 30 colonies of bees, of which a part of them are in old-fashioned hives, but pa likes the Heddon hive the best of all. The bees are swarming fast. It keeps pa busy climbing trees, but he says he will clip their wings next year. The bees have made a great deal of honey already. Pa says he never saw so much white clover as there is this year, and alsike is plentiful also. There is quite a number who keep bees in this neighborhood, but Mr. Ira Owis has the largest number of colonies. NEIL C. MCGREGOR, age 10.

Whitney, Ont., Can., June 23, 1884.

Friend Neil, there is quite a moral to your letter. It is, to look out for mishaps. I have had quite a number of different hands in years past to take care of our apiary; but the young man who has charge now, I believe succeeds a little better than any who have had it before him. Now, it is not because he has more knowledge than his predecessors, for I sometimes think he does not know as much about bees as some of the others did; but the whole secret seems to be that he avoids mishaps; he does every thing so thoroughly that he seldom has any thing happen. A good many years ago I had a very nice boy to take care of the bees, and he was a very fine mechanic; but almost every day I would find something like this: One afternoon I found a lot of one-pound sections full of honey, broken and daubed, and stowed away in one corner of the honey-house. I asked him what they were doing there, and he said he put them there to get them out of the way.

"But," said I, "how did they get broken so?"

He replied, "Why, it was an accident. The wind blew the ladder down, and it fell against a case of sections, and knocked them over on to the ground."

You see, it was purely an accident; but I tell you, my friends, if we want to succeed we must not have *accidents*. The ladder should not be placed where it will fall down, neither should a case of sections be left standing outdoors. The cellar drain should be made so it can not stop up. Still further, the minute those sections tumbled down on the ground, instead of being set off in a corner, to be there until I hunted them up, they should have been sold as chunk honey, or put back into the hives, to be fixed up; and in any case, reported to the owner at once, for him to give orders for their disposal. A cellar drain should be so made that it will not stop up in 25 years.

WANTED, A 5-CENT SMOKER.

I read pa's paper that you publish. He reads it a heap. He has bees. I help him work with them. I have one hive which pa gave me. They are little black bees, very ill natured, and their sting hurts so bad I wish you would send me a little smoker, to keep them from stinging me so much. Pa hardly ever uses smoke. He loves to work his bees. Pa says he is going to send to you and get some foundation, and then his bees will make more honey. I would rather have a smoker than a book. My ma is sick almost all the time. I have a brother, older than I am, and a little brother.

LEONER T. BILLS, age 9.

Lawrenceburg, Tenn., June 12, 1884.

Well, my little friend, I should be glad to make a small cheap smoker on purpose for the little boys and girls, and I have sometimes thought of doing it with the scrap leather we throw away almost by the wagon-load. May be, when I get a little time this fall, I shall be able to do it; but it will have to cost a little more than five cents; perhaps five times five.

HONEY FROM THE PEAR-TREE LEAVES.

My papa keeps bees; they have not swarmed any. They are working on the pear-tree leaves. I will send you some of the leaves, so you can see what they work on. If you think this is worth a book, send "Ten Nights in a Bar-Room."

HATTIE HOUGH, age 10.

Rootstown, O., June 30, 1884.

Yes, Hattie, your letter is worth a book, for it gives us a valuable fact; that is, that the bees sometimes find honey-dew on the leaves of pear-trees. Our next friend furnishes a still more important fact, however. True, he prints his letter (mostly in capitals); but still his caution about letting frogs eat up the bees is a very valuable one. Just read his letter. You see, he is only seven years old, so he can not even print very well.

FROGGS.

wELL. MR. Root. i. tHoUG.Ht. i. w0uLD. wRitE yOu, A, LEttER. i. SawtH.E 0tHER. LitLE. B0Ys wRit!NG. tO. YoU. pA. HAs. 9. StaNDS. °F. BEEs. AND pA. has. tOo. wAt:H. tHE m. EvERY. niGHt. To. KeeP tHe. fRoGGs. a WaY. t HEy. jUmp. RigHt. Up. t0. tHE. LiGhtiNG. bOArD. AnD. Sit. tHErE. UnTiLL. °Ne. coMeS. oUt. a ND. tHEm. tHEY. s WALLOw. Him. AND. tHeN. wAitE. F°R. aN°tHER. untiLL. He. makes. HiS. sUPpeR.oFF. O F. tHE. BEES. LoDA. HUNT. AGE. 7.

sTokEs wHiTE. cO. iLL.

I think I have heard before, Loda, that frogs sometimes learn to eat bees. Toads, we know, do very often; but frogs are so much more plentiful near marshy spots, that they might do a large amount of damage.

WHY THE BEES WOULD NOT WORK IN THE SECTIONS.

The bees will not work in my sections. Will you please tell me why, and also the remedy? I have tried to make them work by putting some comb with a little honey in the sections, but they took the honey out. They have plenty of honey in the brood-chambers. G. W. GRANGER.

Rochester, Minn., June 23, 1884.

I think, my friend, the main trouble is, that your bees are not getting honey now. If you put starters of fdn., or pieces of white comb in your sections, and place them right over the brood-nest, the bees will surely store honey in them if they are getting any. The fact that they took the honey out of the starter-combs is pretty conclusive they are not getting much from the field.

BEES ON BERMUDA GRASS.

Sunday morning, papa was walking around the apiary, and he discovered the bees working on Bermuda grass. He was very much surprised. The Bermuda grass is the finest grass that we have in the South, for grazing; it is nearly equal to the far-famed blue grass of Kentucky. I will send you some of the blooms of the Bermuda grass. NELLIE BOLES.

Church Hill, Miss., June 20, 1884.

Now, Nellie, were the bees not getting pollen only instead of honey? They get pollen from ragweed, and sometimes from timothy. We have sent your specimen of Bermuda grass to Prof. Lazenby, asking him to tell us if he ever heard of bees working on it.

WHY DID THEY SWARM SO MUCH?

Papa had 30 colonies of bees in the spring, and now he has 52. I have one hive that I found. Papa settled and hived them. I have a question I want to ask you. Papa had two swarms on the 17th of June, which he hived, both queens having their wings clipped so they could not fly; they swarmed every day, and some days twice, to the 22d. They swarmed twice on that day. Papa says he never had any such swarming before. He can not tell me why, and I want to know. The gums were new and nice; they would sometimes both be in the air at once, and now they have their brood-chamber nearly full of young bees, nice comb, and honey. They still have the same queens, and they would lay whenever there was room in the comb. Papa always gives them a sheet of brood from the hive the swarm comes out of. NORA E. ANTHONY.

Tullahoma, Tenn., June 28, 1884.

Friend Nora, I do not know any better explanation to give than to refer you to page 445 of our July number.

A QUEEN THAT WOULD NOT SWARM, JUST BECAUSE IT WAS SUNDAY.

Papa has a hive of bees, and there was a swarm hived yesterday. The bees were going to swarm Sunday, but the queen must have known it was Sunday, because she did not come out, and they had to go back. I saw a queen once. My sister was at your store, and got me a cup and saucer at your 5-cent counter. A good remedy for toothache is to take equal parts of pulverized alum and salt, and put in the hole in the tooth. FANNY HARTMAN.

Fort Wayne, Ind., June 24, 1884.

It seems to me, Fanny, you are giving the queen credit for an unusual amount of intelligence, as well as respect for the Sabbath.

A CHILD THAT HATES HONEY.

If your little Huber were in my house, he could have *all* the honey, as far as my boy, about the same age, is concerned. Ever since I have known him (about a year and a half), he has shown the greatest dislike, not only to honey, but to sugar and every thing sweet. They seem to nauseate him, in fact. Queer taste, isn't it? Did you ever know any thing like it? C. W. YOUNG.

Stratford, Ont., Can., May 30, 1884.

Yes, my friend, I have known children who did not like sweets; and the young man who has charge of our tin-room always disliked fruit, from a babe upward. I do not know whether he has got so he can eat strawberries, plums, and pears now, like other folks, but I remember hearing him say he did not like such things when he was just about the age when the average boy is ravenous for fruit.

FOUR APIARIES AND A BEE-HIVE FACTORY.

My pa has four apiaries — one at home, and three away. I don't exactly know how many colonies he has. I help him work with them. I read the A B C book and GLEANINGS. We all love to read the Home Papers. I have two brothers and five sisters. I have a little baby-sister three months old. I live in a village of something near 200 inhabitants. I am a boy 13 years old. We own a bee-hive factory. I run the engine by means of a whip, using the cracker for fuel. I have a seat on the engine, so that I can control the steam. As for the bees, I like them better in the hive than in my boots. I don't use tobacco in any shape or form. ALBERT N. MENDENHALL.

Sylvania, Ind., June, 1884.

I am glad to know your pa is getting to be so enterprising, friend Albert; but we do not quite get the hang of that idea of running an engine. We supposed engines behaved themselves without whipping, and that whips were only (like the law) for evil doers.

THE REASON WHY.

I am a city boy, eight years old. We *don't* keep bees; but when I come out to grandpa's I eat lots of honey. When papa lived in the country he had bees; but Uncle Henry says papa didn't get as much honey as he does, because he didn't have GLEANINGS to read, and find out how to tend to the bees. Harry B. Stilz.

Louisville, Ky., July 3, 1884.

STAYING OUT OF SCHOOL TO HELP ABOUT THE BEES.

My pa has 17 stands of bees. I have to stay at home from school to help my pa make hives and sections. We have had about 7 swarms this summer. Elihu Moore, age 10.

Centerville, Ohio, June 25, 1884.

It may sometimes be necessary, Elihu; but I think it is a rather bad plan to get into, being absent from school.

HARRISON'S FATHER AFTER HE GOT STUNG.

My pa keeps 9 swarms of bees, and they are pretty cross. One stung pa over the left eye, and his eye swelled shut, and he looked like a big bumble-bee. We had a swarm of bees come out of a hive, and it went off. My brother and I followed them, and my pa went and hived them. Harrison Hill.

Tracy Creek, N. Y., July 1, 1884.

THE TWO SWARMS OF BEES.

My brother has 12 swarms of bees; he has had two swarms this year. They both came from one hive. Last year he had two swarms that made 81 lbs. of honey. He talks of going away this fall, and then he says he will give his bees to me. I think I can take care of them as well as he does.

Duvilious Apgar.

Mt. Pleasant, N. J., June 24, 1884.

THE YOUNG BEE-HIVE MAKER.

My father has 11 stands of bees. We have started a saw. We sell a good many hives. I help my pa make hives. We got our saws of you, and we like them very well. We run them with a horse-power. We are going to send to you for an engine next summer. We want to get a six-horse power.

Charles C. Moore, age 11.

Centreville, Ohio, May 13, 1884.

JOSEPH'S FIRST LETTER.

My brother keeps bees. Three years ago he had two colonies; last fall he had ten; but only two got through the winter. He bought a swarm, but half of them smothered while bringing them home, and the queen was among the dead. My brother has one of your A B C books. He bought a queen from you. She swarmed, and left.

Joseph T. Lambert, age 11.

Madison Mills, Ky., June, 1884.

FROM A CANADIAN BEE-GIRL.

My pa keeps bees; he has 3 swarms. He lost 3 last winter. Our bees have not swarmed yet, but we are looking for them to swarm every day. My pa has an extractor, and he expects to extract some honey soon. I have a little sister five years old. She wants to write one too, but she don't know how. I have another little sister, nearly two years old. Her name is Rosa. She will go out and get a stick and play with the bees. One day she got stung on the eye, and ma had to run and get her, and one stung her on the head. Ella Gregg, age 8.

Salford, Ont., Can.

HOW ANNA HIVED A SWARM.

This is my first letter. Last winter we had four stands of bees. This spring they increased to 12. One day nobody was home but me and the baby, and the bees swarmed, and I hived them myself. None of the neighbors knew any thing about bees. The bees settled on a little tree, and I carried a hive under the tree, and shook the tree till they all fell in. Anna Dosch, age 11.

Miamisburg, Ohio, June 18, 1884.

WHAT A BOY 12 YEARS OLD DID.

Pa saw one swarm of bees go over, but he could not stop them. Alfred Pyle, a little boy 12 years old, was going by the woods; he saw a swarm of bees, and settled them on a bush; he ran back home, and got his pa to hive them for him, and they sawed the tree down, and got the old swarm, and he had two swarms of bees. Grandpa has 12 swarms, and they have their caps full of honey, and part of the hives full of honey. Warren Kraner, age 12.

Geneva, Ind., July 1, 1884.

MORE ABOUT THE HONEY-DEW HONEY.

Pa has 25 colonies of old bees, and 14 young swarms, and we have about 200 lbs. of dark honey. Pa thinks it is from that honey-dew. They think they will keep it and feed it to the bees in the fall. There is much white clover here, and the bees are making honey fast. Pa gives us 5 cts. for every swarm of bees we see first. I have earned 15 cts. already. I shall be 15 years old to-morrow, and I thought I would write once more. Lucy Clark.

Lenox, Mich., June 30, 1884.

A JUVENILE LETTER AND A JUVENILE POEM.

My father is a physician. He has 23 stands of bees. There seems to be a good prospect for them this summer. When my sisters were married, pa gave them one stand of bees each, and both stands died. If you wish you may put them in the Blasted Hopes. If any of the readers have a horse that has the heaves, take equal parts of blood-root and lobelia, and give one teaspoonful at a feed; stir in wheat bran. This is a sure cure. I will send a poem:

SUMMER.

One bright summer day
I raked the clover bright and gay;
The blossoms were red, the stems were green,
And never a day so hot that I have seen.
The bees were humming, the birds were singing,
  And the lark was soaring high;
The flowerets were springing up
  Toward the bright blue sky.

E. E. Stansbury, age 15.

Long Bottom, Ohio, June 12, 1884.

THREE SWARMS FROM ONE HIVE IN 12 DAYS.

We had 2 hives of bees. We have 5 young swarms. One hive swarmed three times in 12 days. Can anybody do any thing to make them work in the upper story? There are but two of ours that work in the top stories—one old and one young swarm. Pa does not smoke, chew, drink whisky, nor play cards.

Orland Kraner, age 13.

Geneva, Ind., July 1, 1884.

Yes, Orland, any hive of bees can be made to work in the upper stories, if there are bees enough, and if there is honey to be had. Lifting one of the combs into the upper story is an excellent way to start them, and that is one reason why I have a preference for wide frames instead of cases. You can always get them started without any trouble, Putting in a few sections on which the bees have commenced work, taken from some other hive, will often get them to going.

A LETTER FROM HUBER.

It is little Huber, I mean, children, and you may wonder how I could get a letter from him when he can not even talk, to say nothing of reading and writing. Well, I suspect his sister Conny wrote the letter; and if she did not know what he would probably say if he could talk, she evidently thought she could guess pretty cleverly. The letter was slipped under a dish of strawberries, which, I presume, the children picked all together. Here it is:

Dea Dad:—I fout oo'd ike tawberries, so I sent Ton and Tad down to de tawberry bed after um; ain't me awsul dweful dood? HUBIE H. R.

FROM 5 TO 35, AND 300 LBS. OF HONEY.

Pa is taking GLEANINGS. I like to read it. He is sick, but is better now. Pa wintered 5 stands of bees last winter; they increased to 35, and we got pretty nearly 300 lbs. of honey. Pa has sold 6; 5 went off; double up 5 leaves us 19 on summer stands in chaff hives, wintering well so far. That queen you sent pa last November died last week. The bees are raising them another one. A swarm came out last summer on Sunday; pa and ma were gone to meeting. My elder sister and I got a box, and hived them; and when they came home, pa gave them to us. E. I. ZINN, age 13.

Holbrook, W. Va.

HOW TO TRAP MOTHS.

Ma has 37 colonies, and brother has 8. They made lots of honey last year, extracted and box; they put them all in an above-ground cellar, which has sub-earth ventilation.

I must tell you how ma caught the moths one year ago last summer. She fixed three deep dishes with a little honey and vinegar in them, and set them out in the apiary late in the evening, and took them away early in the morning, so the bees would not get into them. She caught over one thousand in four nights. I should like to have one of those little books, but pa says it is not a good plan to want to get something for nothing.

LIZZIE PATTERSON, age 10.

Jagger, Ohio, Feb. 25, 1884.

Lizzie, I think your plan is a pretty good one; but, if I am correct, you catch a good many moths that are not bee-moths. Very likely they are troublesome in other ways, however, and so I suppose it does no very great harm. I agree with your papa, but we do not often give something for nothing. These little letters, when all summed up, contain a good deal of valuable information.

WHERE DID THEY COME FROM?

We found a swarm one evening, clustered in a plum-bush. There was about half a pint of bees, and three drones, but no queen. I put them into a hive, and they are gathering honey, and seem to be as contented as the rest. Now, Mr. Root, where do you think they came from? It seems to me if they would have come out of one of our hives they would have gone back, as they had no queen. I have one hive of bees that have not swarmed yet; although the hive is full of bees they have not started queen-cells yet. We are in the midst of white clover now. My brother put a swarm of bees into a empty hive on May 31; four slats had the comb built out, and five empty; and eleven days from the time they were put in, they were at work in the sections. I think that is doing well for A B C scholars. WM. O. HEIVLY.

Raymore, Mo., June 13, 1884.

I should think, friend William, that they must have broken off from the large swarm, or got separated and lost from it some way, for it is quite an unusual thing to get such a little amount of bees without a queen. If you give them some brood, very likely they will build up to a prosperous colony.

NEW HONEY, ALSIKE CLOVER, AND A CAUTION ABOUT MAKING CANDY.

Papa has extracted 157 lbs. of honey since receiving his extractor; he extracted that amount out of ten hives. Our alsike clover has commenced to bloom; papa brought in the first little blossom to-day. The other day mamma gave Claudia and me some honey to make taffy, and I spilled some of the hot candy on my foot; it made a very bad burn, but I put my foot in a basin of sour milk, and it gave me immediate relief. Perhaps some other little bee-girl would like to know this simple remedy for burns. MATTIE BOLES, age 6.

Church Mill, Miss., June 9, 1884.

THE MAPLE-TREE HONEY-DEW, AGAIN.

I was out yesterday, and stepped on a clover blossom, and got stung on my foot. We have a lot of maple-trees in our yard, and three days this week they were covered with bees. Can you tell me what there is on maples that they can get? I have a little sister two months old. She has blue eyes, but we can not think of a name for her yet.

GUY BARNES, age 8.

Pana, Christian Co., Ill., June 4, 1884.

Our July No. tells you all we know about it, friend Guy.

HOW TO MAKE A HIVE OF A DRY-GOODS BOX.

Pa had 15 stands of bees last fall; he lost 7 through the winter and spring; he now has 13, with the new swarms. He did not get his other new Simplicity hives until last night. He went to church to-day. He had used all the other hives you sent, and we had a swarm to-day while he was gone. Ma hived them in a dry-goods box, with strips on the end to hang the frames. I guess pa will nail up a hive in the morning, to put them in. Ma said it would be easy to lift out the frames in the new hive.

ISAAC SMITH.

Finncastle, Tenn., June 29, 1884.

MABEL AND CARRIE.

I live across the road from Mabel, and we go to school and Sunday-school together. My sister Carrie has two colonies of bees; they do not make quite enough honey for us to eat, so I hope we shall have some more another year.

WINNIE JACKSON, age 8.

Northville, Ill., March 1, 1884.

Now, Winnie, that is funny, for we have a Carrie at our house, and a cousin Mabel lives just across the road. I think your sister's two colonies of bees ought to be ashamed of themselves, if they didn't make honey enough for your family to eat. A good swarm of bees should make enough to keep honey on the table the year round.

BERTHA AND HER BEES.

My papa has 6 stands of bees; he had 8 last fall, and he gave one away, and one died. Pa gave me and my little brother a nice stand of bees. We extracted 6½ lbs. last week. I like honey, and I like to work with bees. Our bees have swarmed once this summer, but we saved them, and then pa and I went through the stands and cut the queens' wings off, and one stand killed their queen. When our bees swarmed there was only part of the bees came out. Pa was not at home, and we had to send for my uncle. The bees got lost from the queen, and all came back to the hive. We found the queen, and put it back in the stand. It is doing well.

BERTHA SUMMERS, age 13.

Shielville, Ind., June 27, 1884.

HOW PEARL'S SISTER LEARNED TO LIKE BEES.

Pa doesn't keep bees. I wish he did, I like honey so well. My brother-in-law does; he got his bees from you. He takes the GLEANINGS. I read it and his A B C book too. His name is Robert Colescott. He took my sister from me in March, and it is lonesome now without her. She lives half a mile from our house. I get almost sick to see her. At first she was awful afraid of the bees, but now she likes them, and works with them.

PEARL GILPIN, age 9.

Fowler, Ind., June 30, 1884.

Well, now, Pearl, that was really too bad that Robert should come and take your sister away from you. However, if he didn't take her more than half a mile, I think perhaps we had better overlook it; and then, you know, he taught her to work with bees, and that amounts to something, does it not?

PUTTING ON SECTION BOXES TOO LATE.

Father wintered 30 stands of bees, and all came out well but one, and that stand lost its queen, and died. He has now 53 stands of bees, and I help work with them. My brother Albert does not like to work with them, and my sister Bertha will run in the house as soon as she sees one. Father and I took two Simplicity hives full of this year's white-clover honey, and then we filled the upper stories with pound sections, and in the afternoon the bees swarmed.

A plantain leaf is good for a bee-sting. Just pound it up till you can see the juice, then rub it on the sting, and hold it on there for about five minutes. HERBERT A. HALLET.

Galena, Ill., June 25, 1884.

I am afraid, friend Herbert, you and your pa did not get your section boxes on quite quick enough.

Ma keeps bees, and I always help her to hive the swarms, extract, and every thing else that is done about the bees. Ma says I am sure to be a bee-man. I am not afraid of them, even if they sting. We have the Langstroth hive. I like them best of all I see in your books. Ma lost six colonies on account of the dry weather last summer; one left with plenty of honey in the hive, but not a bit of pollen, and I believe that is why they left. Don't you think so too? I had a long talk with a gentleman at the depot about bees. He took my name, but I forgot to ask his. He told me he gets GLEANINGS from you. He was on his way to South Carolina. Some people are so green when I am selling sections of honey they tell me it is manufactured. I tell them the Yankees have not got smart enough to counterfeit that; and if I live to be a man I am going to have a look at you and your establishment. We have lots of orange-trees, and all kinds of fruits. My youngest brother, not two years old, will sit in front of a hive, trying to catch the bees by handfuls; he is not afraid of them. Ma says I must stop that.

VICTOR BLAIZE, age 11.

Bay St. Louis, Miss., Feb. 26, 1884.

WHERE SHALL WE PUT THE QUEEN IN DIVIDING COLONIES?

My pa bought 7 colonies last year; 2 of them are Italians, and 5 are blacks; the blacks are cross. Pa gave me one black stand when he brought them home. My stand swarmed June 19. It was a very large swarm.

In dividing colonies, should pa leave the old queen in the old hive, or put her in the new hive, and leave a queen-cell in the old hive? Will bees swarm before they fill their caps? Pa took 30 lbs. of honey from one Italian stand this morning.

Pa sent to you last winter for Cook's Manual. He thinks he could not do without it.

INJURIOUS EFFECTS OF TOBACCO.

Pa used tobacco about 16 years, and he has been troubled with dyspepsia for a long time. The doctor told him he would have to quit chewing tobacco. He has not chewed any since last fall. I am awful glad pa has quit chewing, for it is not nice to chew or smoke. We keep toll-gate.

MATTIE E. VANCLEAVE, age 12.

Crawfordsville, Ind., June 24, 1884.

Well, Mattie, our boys prefer putting the old queen with the new part, because the bees stay so much better, and the old hive gets plenty of bees anyhow. I suppose it is not good economy, however, for the queen's laying powers are considerably cramped, compared with what they would be if she were left on the old stand.—I am glad to receive your testimony on the tobacco question, Mattie.

ARE BEES STRONG ENOUGH TO MOVE A BRICK?

We began to keep bees last year, and we got one swarm, but the old swarm died in the winter, and left some honey. Mamma put a brick before the entrance of the hive to keep the other bees out, and when she was watching them a lot of bees came out of the other hive and pushed the brick away. I didn't think bees could be so strong. I haven't been stung by a bee yet. We have two maltese cats; their names are Romeo and Juliet.

MARY RICHARDSON.

Cazenovia, Ill., June 26, 1884.

My little friend Mary, one of our office girls was inclined to think you exaggerated a little; but I told her I guessed you did not. I have known bees to rob a hive a great many times because somebody had been foolish enough to think if he stopped the entrance with a block or piece of wood that was enough; but in a little while he would discover the bees had crowded the heavy block right out of the way. Now, a band of robbers, when they are really in earnest, would, without doubt, move a pretty good-sized brick. The secret of it is, a great many of them squeeze in behind it, and then push all together. Was it a whole brick, or was it only a piece of a brick, Mary?

OUR HOMES.

And before him shall be gathered all nations: and he shall separate them one from another, as a shepherd divideth his sheep from the goats.—MATTHEW 25:32.

DID you ever know, friends, that I used to talk skepticism and infidelity to some extent? Well, it is true, I did; and one argument that used to please me, that I used to like to bring forward, was, that the idea was absurd, of separating the human family into two grades, or classes—the good and the bad. The reason we (that is, those who stood with me, and myself) dwelt on was, that where there were so many different stages of both goodness and badness, if that is the proper way to tell it, there could be no just line of separation decided upon. Granting that Christians were better than infidels, we argued they were often so little better that it would be impossible to set a fixed dividing line with justice. A friend of mine used to put it this way: Stand the different grades of humanity along in a row; put the worst man at the foot, and the best man at the head, then fill up with the intermediate grades, and somewhere near the middle you would have two men side by side who average so nearly alike that little if any difference could be discovered; and yet one would be doomed to eternal punishment, and the other to eternal delights. This was the way I used to state it.

Well, dear friends, if we go to work honestly to search the Bible through for statements like this, we shall find that it does not anywhere make any very plain statement, to give a ground for the above. The verse of our text does indeed say that the great Judge of the universe will have gathered before him all nations, and that he will separate them one from another; and if we take the verse before the text, we are told that it is Jesus our Savior who shall sit upon this throne, and judge; and the time is to be when he shall come in his glory. Reading the verse after the text, we are told they shall be divided on his left hand and on his right.

Perhaps I should say in the outset, that there are many things in God's plans that we can not comprehend; but it is true, however, that the more we study him and his works and his holy word, the better we comprehend; and the things that once seemed dark and mysterious become plain and easy. Now, very likely I shall not be able to make this matter plain and easy to you all, but I think I can help you some. For some days back I have been looking at humanity—looking at the friends whom I know and love, and studying on this problem, why are they not all Christians? Perhaps you have yourself said in your own heart, "Am I a Christian? How can I tell?" How can any one tell? *can* any one tell? Yes, my friend, I think any one *can* tell. And if we can tell,—if we have decided within our own hearts what it is that makes us Christians or the contrary,—then comes the great question, standing out squarely before us, "Am I *willing* to be a Christian?"

Since I have been meditating on this subject, I have felt an intense longing to go first to one friend and then another, and propound the question, "Are you willing to be a Christian?" If I should get to talking with you, and we should right here honestly exchange confidences with each other, and I should put this question to you, "Are you willing to be a Christian?" what would you say? I have been thinking what these answers would be—how diverse, and how varied. But the more I think of it, and the more I pray over it, the stronger comes the conviction to my heart, that any one of you may—every soul on the face of this earth of ours, who has the intellect to comprehend the meaning of the word Christian, can decide in the affirmative if they will. Where the answer is, "No, I do not want to be a Christian," the matter is ended. That class of people have freely and voluntarily chosen a place on Christ's left hand; they alone are to blame for it, and nobody else. I presume you have heard discussions as to whether there is such a thing in the world as an honest doubter. I was a doubter a great many years of my life, but I was not an honest one; that is, had the above question been propounded to me, and had I honestly and truthfully given answer, there could have been no other reply than the negative.

And do you indeed pretend to say, Mr. Root, that any one who chooses may become a Christian by simply expressing a willingness? This is exactly what I do intend to say, friends. Any one may, in one instant, start out to serve Christ, if he decides the question for Christ in his own mind; and to do this requires nothing more than the simple effort of the will, just as we choose on any other subject. You can decide in favor of Christ and Christianity, just as simply as you can decide to go off on the train as it comes up to the depot, or stay at home and not go off. You simply choose. Bear in mind, I am talking about honest people now, and I am talking about a decision of the heart, rather than what any one might say. Of course, there are many weak people who decide upon the impulse of the moment—who decide without counting the cost.

Which of you, intending to build a tower, sitteth not down first, and counteth the cost, whether he have sufficient to finish it? lest haply, after he hath laid the foundation, and is not able to finish it, all that behold it begin to mock him, saying, This man began to build, and was not able to finish.—LUKE 14:28-30.

Now, is it fair to punish such when their intentions were good but their self-control was too weak to carry out their promises? It seems to me it is just as fair to punish such as it is to punish people who make promises of any kind, and then fail to keep them. Such people are punished right along through life, for no one can break any promise or contract, without suffering for it, and paying the penalty. Suppose, dear friend, I have been sitting by your side. Suppose we have been exchanging thoughts and ideas on this subject, and have been having a good friendly talk about this matter of eternal life. If you are an honest seeker for righteousness and holiness, we can have a talk that will bring a blessing with it; and, by the way, while I think of it, did you ever consider how very few there are in this world who *would* talk honestly and conscientiously on this subject? Professing Christians will talk, for they do not feel ashamed to confess to intimate friends that they have been striving to overcome temptation, and for more purity and holiness. But as a rule, those who have never made any profession of religion are backward and averse, because such a question as the one I have quoted above strikes home with a sort of reproof in it at once. When some one says, "Are you willing to be a Christian?" and you reply, honestly, from the bottom of your heart, "Yes, I am willing," then follows closely, "Why are you not already a Christian?" Now, you must either answer this by excuses of some sort, or else you must frankly admit that you have not until this moment *decided* to be a Christian. How many are there, do you suppose, friends, who are willing to say yes to the question I have propounded? There are a good many things to be considered in this matter. As I have reviewed the question in the past week, it comes up before me something like this: If you throw the emphasis on the first word, it directs toward an examination of our own hearts in regard to truthfulness — "*are* you indeed willing, or do you simply think you are? Are you *sure* you are willing to be a Christian?" I tell you, friends, it is well to be sure in such a matter; to count the cost, and examine ourselves well.

Let us put the emphasis on the second word: "Are *you* willing to become a Christian?" It is an easy matter to talk Christianity to other people, and recommend it to them. It is an easy matter, also, to point out to Christians what they ought *not* to do. People weigh the acts of others, as to whether they are Christianlike or unchristianlike, and lay down rules of action for others all about them; but I tell you, it is a harder matter to turn it all right around pointedly toward yourself. We are all of us quite willing other people should be Christianlike. Even the highwayman, when he demands your money or your life, or throws a train off the track that he may rob the passengers, prefers to have the rest of the world lead upright, honest lives, or else there would not be any thing worth stealing. If all the world were robbers, there would not be any thing to get by robbing. Now, then, when all the world takes it into their heads to become Christians themselves, or, if you choose, when all the world are *willing* to set to work to mend their own lives, so that they shall be in accordance with Christian principles, then we are making progress. My friend, are *you* willing to become a Christian?

Now let us try the next word: "Are you *willing* to be a Christian?" Everybody assents to the proposition, as I have told you above, that Christianity is a good thing; but when it runs against some pet sin of your own, then comes the tug of war. You may be intemperate in your habits; perhaps you drink moderately, but know from the bottom of your heart that, to be a Christian, this sin must be given up. A friend once made the remark, that if he were to undertake to live a Christian life—that is, such a life as he felt a Christian ought to live, he would have to give up taking his children out to ride Sunday afternoons and evenings. Although he could not feel there was any thing very wrong in the way *they* took their rides, yet he knew the example as a whole was bad; therefore, if he should become a Christian he would be obliged to give it up; and to tell the truth, this, with several other things, he was not yet "willing" to give up. No one had told him he must stop his Sunday rides if he became a Christian, but he had simply figured it out himself, and he was not "willing." The path to eternal life is indeed a straight and narrow one; it cuts terribly close, and it sometimes seems as if it were merciless in cutting off things we may be wedded to. I can remember the time when I began studying the matter of a Christian life. I knew that where I was then standing I could not be a Christian. I knew I should have to change very much in some respects. It seemed as if I had got to get over the fence into another life. I had looked over that fence a great many times; but there were things on the side where I stood that I did not choose to give up. I was afraid to cut loose from this world, and get over into that straight and narrow path, and stay there. I was not only afraid, but I was unwilling. What a wonderful thing that word "willing" is! How I do love cheerful, willing people—people who are willing to do right; who are willing to suffer for Christ's sake! I love people who are willing to be honest. Did you ever think of putting it that way? How often we see the element of unwillingness in the world about us. It exists in our own hearts, and there is right where we ought to see it. But our eyes are dimmed when we look that way. Only a short time ago I was thinking how quickly I could tell whether a willing spirit resided in those whom I meet; especially those who come to me and want something to do. How I do love to see willing workers! It makes me happy to come across one who is willing to be honest and conscientious.

How beautiful upon the mountains are the feet of him that bringeth good tidings, that publisheth peace.—Isa. 52:7.

This willingness to do right, it seems to me, is one of the greatest elements of a Christian character: its opposite, *willfulness*, is also the greatest element in sinking souls into the bottomless depths. A temptation is presented to you. You know it ought to be put away under foot, but the temptation comes to you in glaring colors—rainbow colors, perhaps. Satan *can* clothe common objects in rainbow colors when he and all his allies set about it, and he *can* hold out allurements to swerve one from the path of duty, which only those can understand who have had a pitched battle with him. Some new and delicious influence all at once pervades your very being—something so strange that you stop and stare at it; and when the voice of conscience again sounds in your ears you answer back, "Why, there surely can be no harm in stopping to take a look at this funny phase." You stop and look awhile, and in a moment more you say to yourself, "Why, I do not see any thing really wrong about this. I believe God intended that we should enjoy these gifts, and now who knows but that I have been making a martyr of myself all my life, and have had hardly any fun at all, just because of these very strict conscientious scruples?" In answer to this, conscience tells you that the whole thing is wrong; the end can be nothing else than death and ruin. Perhaps you have got so far into Satan's toils that you reply, "I am only going to stop and look on a bit, it is all so wonderful and new." Perhaps you rely on the fact that you have always been straight and upright, and nobody would believe any thing bad about you, even if somebody should tell it. My friend, this is a part of Satan's machinery; it is one of his great big levers to get you out of the path of duty, and to block the way so you can not get back again. Stop right there and say to yourself, "Am—I—willing—to—be—a—Christian?" As the word "Christian" rings out you almost give a jump, for you know so well that a Christian has no business at all standing on any such ground, even for one second. I hope, my friend, if you have got there you will have grace enough and strength enough to turn right square back, for God sometimes punishes terribly for a little deviation from the straight and narrow path—perhaps no greater than the one we have pictured in the above. Lot's wife turned her head to look at the forbidden city, and she was instantly transformed into a pillar of salt. Uzzah put his hand on the sacred ark, and he fell dead; and men go down to ruin nowadays for no other offense than simply trifling with the path of duty; simply because they were not willing to turn resolutely about and flee when temptation first presented itself.

Are you willing to *be* a Christian? A great many think, if they do not say, "Oh, yes! I am going to be a Christian after a while;" or, "I expect to become a Christian." Satan does not like to have people in a hurry in getting into the right path. He much prefers to have them wait awhile. He says to them, "Oh! I don't object to your becoming a Christian, for, of course, it is the right and proper thing to do;" but he always objects to their making the present tense of it. Can any one be a Christian right off on the instant? Yes, sir, I think he can. You can be a Christian quicker than you can climb over the fence, or jump out of the door. Both of these things would take a little time to accomplish; but you can decide in your own mind in one second of time, if you will. A great many more people would be willing to *become* Christians than would be willing to *be* Christians; and while I think of it, it seems to me the great need of the present hour is to *be*, not to *become*. Somebody has said, that the way to *do* good is to *be* good. The point is, that you are not to wait until you have an opportunity of doing somebody good; you are to *be* good right off. Put away all wrong, impure, or wicked thoughts; stop thinking of or looking at or listening to any thing you know is wrong or hurtful; do it at once; act without waiting or considering or dallying, just so soon as you know the thing is wrong; and we usually determine very quickly between right and wrong, if we have been striving for purity of heart and for godliness.

Whosoever will, let him take the water of life freely.—REV. 22:17.

We have just one more word left, dear friends: Are you willing to be a *Christian?* Folks used to say inquiringly, "What is it to be a Christian? what is Christianity?" But they do not very much lately. Pilate asked Jesus, "What is truth?" He did not want to know, and it has always seemed to me he felt ashamed of himself after he asked the question. You, my friend, know what it is to be a Christian. You may criticise this little talk to-day, by saying that I have presented it all as too easy a matter. You may say that it takes a little time to build up a Christian character. I agree with you; and many times, perhaps, about all that one accomplishes is to go through life battling with evil. Thanks be to God, however, that he, in his infinite mercy, accepts the will for the deed; and he who is at all times willing to *be* a Christian *is* a Christian; for it is this willingness to eschew evil that builds up a Christian character. One can resolve or decide in a second to be a Christian; but the great tug of war comes when you try to live it. Do not be discouraged, dear friends. With every victory comes new strength and grace and power to fight the good fight, and to come off victorious. On the contrary, with every slipping back and every failure come increasing hindrances; therefore be not faint-hearted or weary, but keep on trying and striving and praying for a constant willingness to do right. Let nothing tempt you, even one hair's breadth, from this purpose. "If God be with us, who shall be against us?" And if this thought is constantly in your mind, whether death shall come swift and quick, or slowly by disease, you need never be afraid of meeting the great Judge of all the earth when he shall sit on his throne, and before him shall be gathered all nations.

Now, friends, we have come around to the consideration of our text again. Is it really true that the human family shall be divided into two great factions? Is there any thing in this matter of free will that sharply and decidedly divides all nations into two classes? If in the little figure I used in the commencement of my talk, the different grades are put together in one long row, with the worst man at one end and the best at the other, would there indeed be a strong and marked difference between the two who stood side by side near the middle? If so, wherein lies this great difference? I think there would be a difference. As I see it, the difference would be simply this: One accepts Christ, and the other does not. It is true, there is a large class of people who seemingly do not take sides at all; in fact, they sometimes say they have no interest in the matter whatever. What is to be done with these? Why, these by their actions, if not words, say, "I am not willing to be a Christian."

He that is not with me is against me.—MATT. 12:30.

TOBACCO COLUMN.

I HEREWITH give you the requested "Battle with the Tobacco Habit." First, to show how doubly riveted were the slavery chains of tobacco on me, I will relate an incident. I had gone from my residence to another farm, some five miles away, to see to some work being done for me. Expecting to be home to supper, I had neglected to take my pipe (I only smoked then). Something occurred which made it necessary for me to remain at the farm all night; and at the usual time for my after-supper smoke I was minus my pipe. None about the house; could get none from the neighbors—they all chewed. Well, this habit of tobacco was so strong that I actually could not rest without it, and I got a piece of "dog leg," and, miserable stuff as I knew it was then (in 1860), I chewed it. It was my first chew of tobacco I had ever taken. Result: From that time I both chewed and smoked (of course, I became very choice in my brands, and chewed none but the best); chewed and smoked for ten years.

At Christmas of 1870 I had occasion to travel some fifty miles in my buggy; and as it was very cold I wrapped myself well in buffalo robe, neck fur, and fur gloves. Well, I chewed and spit and spit and chewed all that fifty miles; and after a few days I returned in the same way, and what, with the necessity of ungloving to take a fresh chew every little while, and the filthy condition of my furs when about ten miles from home, I became so exceedingly disgusted with myself for being so much of a slave to so filthy a habit as to befoul my clothing so disgustingly, I then and there resolved never to take another chew of tobacco, and I threw away on the roadside more than two-thirds of a paper of the best fine-cut tobacco, and have never taken a chew since, now nearly fourteen years.

But I still held to the habit of smoking, which I continued to do for some years, when I quit that for about a year, but was tempted to resume it again, and continued to smoke.

I will here say, that during the year that I quit smoking, I continually suffered for tobacco. I had not taken a very strong resolution against using it. Well, I went at it again, and it appears I took "seven other devils" with it, for I went at it with tremendous energy, and got along so far as to be obliged to get up in the night and smoke, in order to quiet my nerves. The habit became so strong that I will say, with truth, that, except during the time of eating, I was smoking a cigar from daylight (and in winter before day) until generally ten o'clock, and frequently until eleven or twelve. I generally used up half a box of cigars a week.

Well, after keeping this up for some years I found that, although I am a man of tremendous physical powers, and with nerves as strong as a rock (I stand 6 feet 2½ inches in my socks, and weigh 290 pounds), I was getting considerably worsted in the battle. I could not get enough nicotine into my system to steady my nerves. There were not hours enough in a day to do it, and get enough sleep. I became irritable; my throat and system generally became dry, my heart beat like a trip-hammer, and very irregularly; I could not sleep well; and, take it all together, the enemy was fast getting the better of me; he had as tight a grip on me as ever he had on any man. I saw it would not do, and I quit.

For weeks I wanted tobacco—steadily I resisted. I had resolved never to use tobacco again, and I found it easier than I supposed, to resist. For a time I would not think of it, and then the desire would come again, but weaker every time; and now for nearly two years I have had no desire whatever to use tobacco, and will never use it again. All my bad feelings have gone, and I am my own proper self again. My heart beats regularly, and I sleep well. Many persons say, "There is no use to try; I can not quit;" but I believe there is no man but can entirely quit the use of tobacco, if he *really* wishes to do so. As for intoxicants, I know nothing personally in regard to them. I do not even keep them in the house for use in "snake-bites."

FRANCIS W. BLACKFORD.

Chillicothe, O., April 11, 1884.

A LITTLE SERMON FOR THE BOYS; FROM ONE WHO KNOWS WHAT IT IS TO USE TOBACCO.

My dear friends and brother bee-keepers, and all readers of GLEANINGS. In reading GLEANINGS, which is a welcome visitor to my humble house, I notice quite a number pledging themselves to Bro. Root to abstain from the use of that filthy weed, tobacco. Well, praise God, that a few see the wrong in using the stuff. But, beloved friends, are you not also wrong in accepting a prize from our worthy brother, in order to be induced to quit the habit? I presume quite a good many of the friends claim to be followers of Jesus. Then if so, why not take the Scripture way of doing? Paul says, II. Cor. 7:1, "Having therefore these promises, dearly beloved," speaking to professors, "let us cleanse ourselves from all filthiness of the flesh and spirit;" is not tobacco-using "filthiness of the flesh"? "perfect holiness in the fear of God." But, dear friends, tobacco is not all. Will not some of the readers of GLEANINGS tell us what is the filthiness of flesh and spirit? You will find this a glorious study. Also, what were the promises? Another beautiful study; God wants us to be real Bible Christians; then if God commands us to cleanse ourselves from this filthy habit, are we doing right to accept the prize smoker from Bro. R.? Had not all better stop the habit by the grace of God, and remit 50 cts. for the smoker? Shall we continue in sin that grace may abound? God forbid. Be strong in the Lord; quit yourselves like men, and "contend earnestly for the faith once delivered to the saints." I know whereof I speak. I am now 38 years old; 30 years of that time I was on the wrong side. I smoked, swore, drank whisky, and did almost every thing that was contrary to God's law, and knowing it was wrong; therefore to him that knoweth to do good, and doeth it not, to him it is sin. But, praise God, last March a year ago, he called on me for the last time, and showed me I must wield my voice and pen for the up-building of his cause. I met the conditions of pardon; *i. e.*, repented and confessed my sins to him, and claimed the forgiveness, and by faith it was done; but on this condition only, that I abandon the habit of sin for ever; then God showed me plainly that there was another work of grace to be done; *i. e.*, of presenting my body a living sacrifice, holy, acceptable to him. I did so, and claimed entire cleansing, consecrated my all to him, and by faith was cleansed from all sin; and the blood of Jesus sanctified me wholly; and the word says, "But tarry at the city of Jerusalem until you be endued with power from on high," which is the baptism of the Holy Ghost and fire. Oh glory to God! when the power was poured upon me, my soul became aflame for God's cause. The word says that he would grant unto us that we, being delivered out of the hands of our enemies, might serve God without fear, in righteousness and holiness before him all the days of our life.—Luke 1: 74, 75.

Then we find this is the will of God, even your sanctification.—I. Thess. 4: 3. Again, that we put off the old man with his deeds, and that we put on the new man, which, after God, is created in righteousness and true holiness. Again, if we walk in the light as he is in the light, we have fellowship one with another (you and God) and the blood cleanseth us from all sin.—I. John 1: 7. You see, in pardon you are only made righteous; and when the second work of grace is given, it cleanseth—oh glory to our God! Amen. REV. J. M. INGLING.

Altamont, Ill., June 23, 1884.

While I thank you, friend I., for your kind suggestions and very beautiful quotations of Scripture, I would suggest that, inasmuch as a blessing seems to have come with these smokers that have been given away, that we be not in haste to criticise. If it be God's will to have the work go on in the way it has started, let us be careful how we make objection to it. If the smoker will help any brother, it is a pleasure to me to give it; and He who ruleth over all things will take care of the issue.

A MERCHANT WHO HAS THE COURAGE TO STAND OUT BOLDLY, AND DECLARE HE WILL NOT SELL TOBACCO.

I have been a reader of GLEANINGS for years, and wish to give you my testimony, that a man can quit the use of tobacco entirely. I quit smoking and chewing last winter, and have also quit selling it too. I have been selling tobacco about 12 years, and have been chewing and smoking about 30 years. With God's help I will never chew, smoke, nor sell the filthy weed again. I have 13 stands of Italian bees, therefore GLEANINGS pays me well.

Irving, Ill., June 23, 1884. JAMES MCDOWELL.

May God bless you, friend M., in your determination; and may others be led by your example to rise up and do likewise.

ANOTHER VOLUNTEER.

I saw in your journal that you would give one of your smokers free to all persons who would stop the use of tobacco. I will give up the use of ever chewing tobacco again. If there is any postage on the smoker, let me know, and I will send it to you. Send the smoker, and greatly oblige me.

Lynch's Station, Va. J. H. TUCKER.

Friend T., we send the smoker, but your promise is not quite the thing, although your omission may be unintentional. You want to strike out that word *chewing*, and substitute *using*, and then you will have it. I am always very careful in talking with our boys to say *using* tobacco; and when they come to me and promise, I insist on their saying the *use* of tobacco.

A FRIEND ENLISTED.

I don't use tobacco, but nevertheless I have a friend who does; that is, he did. This friend is a neighbor, and is becoming interested in bees. One day a short time ago he was at our house, and mother got GLEANINGS, and showed the Tobacco Column. He read a short time, and then laid the book aside, not talking very favorably, but it seemed good seed was sown. Last evening, when I was in the bee-yard using my smoker, he came along, and said:

"Fred, I guess you will have to send for a smoker for me. I have quit using tobacco."

As he spoke, a broad grin spread over his face, showing his teeth, which were so white that I knew he was in earnest. I told him it was an agreement to quit for good. He said he knew it, and would pay for the smoker if he commenced again. So, send him the smoker, friend Root, and I will go his security. I never had very much faith in your smoker plan; but if it saves my friend from so loathsome a habit, it will be worth more than all the smokers you ever made. His name is Henry Kaufman. Please send him the smoker immediately, as I fear he will have a hard time of it, and the smoker may help him to conquer. FRED F. ROE.

Jordan, Ind., June 13, 1884.

May God bless you, friend R., for your efforts in behalf of your brother. I believe I would rather have the pledges given this way than in any other, because you stand by to witness the contract; and one thing is certain, he will never be found using tobacco while you are around, unless he pays for the smoker, and I think he will hold out.

TRUE TO HIS PROMISE.

You gave me a smoker some time ago because I quit smoking. I have smoked several times since, so here is your dollar. Many thanks for past favors.

JOHN A. LAMB.

Montgomery, Ala., July 4, 1884.

May God bless you, John, for remembering to be as good as your word, even though you have given way to temptation, and gone back to tobacco again. Now, of course, it rests with you to decide whether you are going to be a slave to tobacco or not; but if you should decide to use it, do not, I pray you, ever give way to the temptation to falsehood or deceit. Be manly and honest, and keep good your word.

IS IT MANLY TO USE TOBACCO?

Reading Our Homes in June number of GLEANINGS, and your exposition there of what true manliness is, and following on into the Tobacco Column, it is suggested to me to relate how I gave up tobacco. I never was an inveterate chewer or smoker, but for some years I used tobacco in one or other of these ways, just about as occasion would permit. In May, 1881, I began to look upon the indulgence in the light of being a professed follower of Christ, and asked myself if it was a becoming habit for such. It did not take long to make up my mind on that point, and I have never used tobacco since. I think if many who are professing Christians would view the matter in the same light, and be square "up and down" with themselves, sometimes an elder, sometimes a minister, and sometimes a layman would lay down the weed and never take it up again. The effort in many cases would be greater than was necessary in mine, but the manliness would be all the more evident, and the Christ-likeness of attainment might be all the greater.

R. W. MCDONNELL,

Galt, Ont., Can., July 6, 1884.

GLEANINGS IN BEE CULTURE.
Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, JULY 15, 1884.

And these shall go away into everlasting punishment: but the righteous into life eternal.—MATT. 25: 46.

DECLINE IN BEESWAX.

FOR the present we can pay only 32 cts. cash, or 34 in trade for fair beeswax. Foundation will be 10 per cent lower than our list price, as we gave you notice last month.

ONE OF OUR BEE-JOURNALS DISCONTINUED.

FRIEND MERRILL, of the *New-England Apiarian*, says he loses money every year in publishing a bee-journal, and it will therefore be printed no more. All whose subscriptions have not expired will receive some other bee-journal for the rest of the time. With the competition now in the field, one who makes a bee-journal succeed must put his whole soul into it; and, for that matter, a good deal of the contents of his pocket-book also.

A VERY VALUABLE NEW BOOK.

THOSE who are acquainted with the writings of our veteran market gardener of the world, Peter Henderson, will rejoice that he has just published a new book which he calls "Garden and Farm Topics." It not only gives a vast amount of information that is new, but he tells us how things have worked, and about the improvements made in market gardening, since his book on "Gardening for Profits" was printed. Mailed from this office, postpaid, for $1.50

QUEENS FROM ITALY IN 17 DAYS.

WE have just received 50 imported queens that were shipped by our friend Bianconcini only 17 days ago; 49 of the 50 were alive and in good condition. One of our boys, however, killed one in taking the lid off the box. When he opened it so the queen could crawl out, she started out with the rest; but by this time our young friend had pried up the opposite side of the cover, and mashed her. *Moral.*—Be careful when you pry a nailed lid off from any box that contains a queen.

ROOFING TIN FOR SIMPLICITY HIVES.

SINCE Simplicity hives have got to be almost a household word the world over, we have had some tin manufactured expressly for making covers for them. The size is 18x22 inches. The price is 8 cts. per single sheet, or $8.00 for a whole box of 112 sheets. Getting this tin at these reduced prices enables us to make the Simplicity dripping-pans at 15 cts. each, instead of 20, the old price. In lots of 10, $1.40; or 100 for $12.50. In moving bees temporarily to meet basswood-bloom, these tin dripping-pans would make a light cheap cover, for they will nest into each other, and they will slip over the top of the hive. Of course, such hive-covers would not do very well to sit down on.

A WRONG NAME.

ON page 466 of our last issue, at top of second column, please read "C. E. Curtis" instead of Custer. The error was occasioned in copying the original, and we hope all will note the change. Let us here repeat, friends, what we have so often said, don't write two things on the same sheet of paper, one of which which must go into the composing-room and the other somewhere else. Put advertisements by themselves; also articles and orders for goods, putting your name, county, State, and address on each one. In making a capital L, make it like this; or an S, make it crooked; for an I, make a straight mark; for a J, like an umbrella-handle. Perhaps it would be well to say that this protest comes from our printers.

FOUL BROOD.

QUITE a number of letters are at hand, detailing troubles with foul brood. Bear in mind, friends, that all the troubles you have ever had in bee culture are probably as nothing in comparison to the one trouble of foul brood. Be very careful indeed in buying bees of any one who through ignorance or want of principle may spread this dread scourge. Although one large branch of our business is selling bees, I often feel as though it were a blunder. With the present knowledge we have now on the subject, bees can be reared so cheaply that any one who has got any sort of a start ought to be ashamed to send off to buy bees. Get a good queen to start with, and that should be all you need. Take the bees you have around home, and build up an apiary. You may have a thousand colonies in a little time, if you want them, without buying another bee. No foul brood has ever been seen or heard of in Medina County; and I hope that such may always be the case. I have thought of publishing some of these letters; but on some accounts it is not well to give publicity to the matter. Now, then, look out, and remember, "I told you so."

WHOLESALE PRICES ON THE A B C BOOK.

As usual, where there is a considerable demand for any certain article, there begins to be a difficulty in fixing prices. After having given the matter considerable thought, we have decided, at least for the present, to fix prices on the A B C book as follows: Single copies, cloth bound, postpaid by mail, $1.25; same as above, only paper covers, $1.00. From the above prices there can be no deviation to any one; but each purchaser, after he has paid full retail price for one book, may order the cloth-bound to any of his friends on payment of $1.00, or the paper cover at 85 cents each. This discount we give to pay you for showing the book, explaining its worth, etc. If you order them by express or freight, you may take off 15 cts. from each cloth-bound book, or 12 cts. for each one in paper covers. Of course, it will not pay to do this unless you order a number at a time, or order them with other goods. To those who advertise A B C books in their price lists and circulars, a discount of 40 per cent from retail prices will be made, and this discount will be given to all booksellers and newsdealers. To any one who purchases 100 at one time, a still further discount will be made, to be given on application, and the 100 may be made up of part cloth and part paper, if desired. Purchasers are requested not to sell single books at less than the regular retail prices, although they may sell two or more at any price they think proper; or the A B C may be clubbed with any other book or periodical, at such prices as the agent thinks proper.

CONVENTION NOTICE.—The North-Eastern Kentucky Bee-Keepers' Association will meet at Covington, Ky., in Walker's Hall, August 13, 1884. All bee-keepers are cordially invited.

G. W. CREE, *Sec.*

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have about a half-dozen black and hybrid queens for sale at 20 cts. and 30 cts. respectively. Safe arrival guaranteed. Hybrids are well marked.
S. H. **Blosser**, Dayton, Rockingham Co., Va.

I have some black and hybrid queens for sale. Price 30 and 50 cents.
J. H. **Colville**, Somerset, Pulaski Co., Ky.

I have a very nice lot of tested and untested black and hybrid queens, which I would sell at a very low price. 14-15-16
G. W. **Albrecht**, Dundas, Calumet Co., Wis.

I have a few hybrid queens that I will sell at 50 cts. each; with clipped wing, 40 cts. each.
F. S. **McClelland**, New Brighton, Pa.

I have 10 black and hybrid queens that I will sell at 25 cts. each. Safe arrival guaranteed.
W. H. **Laws**, Box 37, Fort Smith, Ark.

Having decided that I want no more queens with clipped wings I will sell about 20 clipped Italian queens one year old for 50 cts. each to any one that wants such this month or the first of next.
D. S. **Hall**, So. Cabot, Wash. Co., Vt.

WANTED.

A Barnes Saw, in exchange for a foot-lathe, hollow spindle, with face plate, 8-inch swing, 40 inches between center. Chisels, gouges, heading-tools, drill-chuck, drills, steel dog, rubber belt, etc.
14d M. W. SHEPHERD, Rochester, Lorain Co., O.

READ THIS!

75 Swarms of Bees For Sale, $3.50 Per Swarm;

10 Langstroth frames, each with straight combs. Hybrid bees in good condition. Who will take them at such a low price? **W. S. WRIGHT,**
14d **Battle Creek, Mich.**

50 COLONIES ITALIAN, and 10 colonies hybrid bees, in 2-story Simplicity hives, 20 L. frames, $7.00; 1-story Simplicity, $5.00 if ordered so I can ship before Sept. 15. Frames about half wired; 10 per cent discount on 50 or more. Safe arrival guaranteed. **J. H. REED,**
14-15-16d **Orleans, Orange Co., Ind.**

FOR SALE CHEAP.

A 12-bore double-barrel breech-loading shot gun, best Damascus-steel barrels, made by Chas. Daly. Cost $105; will sell for $55; for particulars, address
CHAS. H. SMITH, Box 900,
14d **Pittsfield, Berkshire Co., Mass.**

Pure Italian Queens.

100 UNTESTED QUEENS IN THE NEXT THIRTY DAYS AT 75 CENTS EACH.

Bred in Full Colonies From

SELECTED IMPORTED MOTHERS.

D. G. EDMISTON, ADRIAN, LENAWEE CO., MICH.
14-17db

QUEENS BY RETURN MAIL

—FROM OUR NEW STRAINS OF—

ITALIAN AND ALBINO BEES.

We are happy to announce to the bee-keeping public that we are now prepared to send you queens on short notice at the following low rates:

Untested, each	$1 00
" per ½ doz.	5 50
" per doz.	10 00
Warranted, each	1 10
" per ½ doz.	6 00
" per doz.	11 00
Tested, each	2 00
Select Tested, each	2 50

Send for our Descriptive Price List, and see what our customers say of our goods. Address

WM. W. CARY & SON,
COLERAIN, - MASSACHUSETTS.

The oldest breeders of Italian bees in America.
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ITALIAN QUEENS

Bred From Select Mothers, and Mated with Choice Drones.

This last point a specialty. No bees by the pound, no nuclei; no full colonies for sale. Caged queens by mail at rates given in A. I. Root's price list.
Address **Dr. J. A. GUNN,**
9-14db **Casky, Christian Co., Ky.**

CHEAP! - CHEAP!

FULL COLONIES, NUCLEI, and QUEENS.

SEND FOR PRICE LIST TO

DAN WHITE, NEW LONDON, HURON CO., O.
7tfdb

WE CALL the attention of all wanting A No. 1 bees, Italian, Hybrid, or Cyprian, to the following, from one well known to the readers of this paper:

"I have never seen a case of foul brood; my bees are entirely healthy, and have always been so, and are O. K. in every respect. Geo. B. Peters, M. D."

We can furnish any number of the above bees, and will warrant satisfaction and safe delivery. N. B.—No bees sold from any apiary that has ever had a case of foul brood in it. Write for particulars and prices to FLANAGAN & ILLINSKI,
9-14db Lock box 995, Belleville, St. Clair Co., Ill.

STANLEY

AUTOMATIC HONEY-EXTRACTOR

—AND—

DOLLAR SMOKER.

Also other supplies. Send for free circular.
10tfdb G. W. STANLEY & BRO., Wyoming, N. Y.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

OHIO WESLEYAN UNIVERSITY DELAWARE, OHIO.

791 students last year. Open to both sexes. In scholarship, low expenses, and commanding influence, among the first colleges east or west. Ladies under special supervision in an elegant home. **Conservatory of Music, Art Department. Academic, Normal and Business Courses;** besides the regular College Course. Necessary annual expenses under $160. For catalogue, address **C. H. PAYNE, President.**

SOMETHING NEW!

) SEND TO (

E. B. WEED, No. 95 West 2nd St.,

CINCINNATI, O.,

For a sample of ***Foundation*** that can not sag or break down, with side walls of Pure Wax, from 1-16 to 1-4 of an inch high. Cheaper than any other make. 10-tfdb.

SAFE INTRODUCTION GUARANTEED BY use of Safe Cage. In July and after, price of untested Italian queen $1.10, or without guarantee, but in Safe Cage, $1.00. See June advertisement. Circulars free. S. A. DYKE,
13tfdb. Pomeroy, Ohio.

1884. ITALIAN QUEENS. 1884.

Orders are all filled, and a good stock of untested Italian queens on hand, ready to ship by return mail. Dollar queens, $7.00 a dozen. We are now ready to send out 100 lbs. of fdn. cut to fit any frame, made on one of A. I. Root's mills. We will take $50.00 for the lot. *T. S. HALL,*
13-14d. *Kirby's Creek, Jackson Co., Ala.*

ATTENTION, QUEEN-SHIPPERS.

A new candy for shipping queens in 10 and 20 lb. cans—the 10-lb. can for $1.75; 20-lb. can for $3.50, by express. This candy can not be excelled in the United States. Send for prices on large quantities.
13-tfdb. **T. S. HALL, Kirby's Creek, Ala.**

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

can furnish pure Italian Queens, reared under the swarming impulse, in his own apiary, at $1.00. Make money orders payable at Flint, Mich. 13tfdb

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Italian Queens!

Tested, $2.00; untested, $1.00; raised from imported mothers. AMOS BLANK,
13tfdb. Woodville, Sandusky Co., Ohio.

J. W. ECKMAN,

RICHMOND, FORT BEND CO., TEXAS,

DEALER IN

PURE ITALIAN BEES AND QUEENS.

7tfdb *SEND FOR CIRCULAR.*

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

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DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

BEES AND FOUNDATION-MOLDS CHEAPER.

25 PER CENT discount in July on every thing but $1 queens. See circulars and May "ad."
OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.
12-tfdb.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfdb JNO. VANDERVORT, Laceyville, Pa.

HIVES. 1884. HIVES.

SEND for new price list of supplies for the apiary. Hives by the 100 in flat cheap, and best quality. Also rakes and cradles. White's pat. wire brace rake, best and most durable. Send for price by the dozen.

A. D. BENHAM, 10tfd
OLIVET, : EATON CO., : MICH.

Bright Italian Queens!

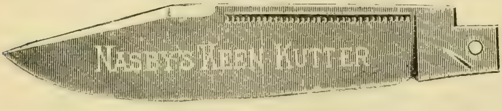
Beautiful golden-colored bees, very gentle, and excellent workers. Queens large and prolific. Untested queens by mail, $1.00 each. Tested queens, $2.00. Extra tested for queen-raising, $3.00. Address
DR. A. P. COULTER,
13-18db. Marissa, St. Clair Co., Ill.

ESTABLISHED 1855.

BEES WAX

HEADQUARTERS

We have constantly on hand a large stock of Domestic and Imported Beeswax in original shape, which we offer to manufacturers of Comb Foundation at lowest prices. Write to us for prices. Address 7-11d-b
R. ECKERMANN & WILL,
Beeswax Bleachers & Refiners, SYRACUSE, N. Y.



MAHER & GROSH show here the large blade in their "Nasby" Knife; ebony handle, with a small blade; price postpaid, 65c. Blades hand-forged, and replaced free if soft. Boys' razor steel knife, 25c; strong 2-blade, 50c; Ladies', 20 to 50c. 48-page price list free; also, "How to Use a Razor." Discount to clubs.

74 NORTH SUMMIT STREET, TOLEDO, OHIO.

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DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

J. W. ECKMAN,
RICHMOND, FORT BEND CO., TEXAS,
DEALER IN
PURE ITALIAN BEES AND QUEENS.
7tfdb *SEND FOR CIRCULAR.*

Italian Queens and Bees!

Warranted queens, each $1.00; 6 for $5.00; Tested, $2.00; special prices on large orders. *Orders filled promptly.* If you want bees for *business*, give me a trial order. Safe arrival and satisfaction guaranteed. Send for circular, giving full particulars.
CHAS. D. DUVALL,
13tfd. Spencerville, Mont. Co., Md.

1884. 6 Warranted Queens for $5.00. Write for circular. 1884.
7tfd. J. T. WILSON, - MORTONSVILLE, KY.

ONE-PIECE SECTIONS A SPECIALTY!

Sample lots of 100 sections, 50 cents. See adv. in GLEANINGS of Feb. 15. B. WALKER & CO.,
7-15d Capac, Mich.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have a very nice lot of tested and untested black and hybrid queens, which I would sell at a very low price. 14-15-16
G. W. ALBRECHT, Dundas, Calumet Co., Wis.

I can dispose of 10 black queens in 2 weeks at 20c each. IRA D. ALDERMAN, Clinton, N. C.

Italian and Holy-Land hybrid queens for sale at 50 cents each. I will furnish them up to Oct. 10, 1884. Safe arrival guaranteed.
A. L. SWINSON, Goldsboro, Wayne Co., N. C.

I have a few young hybrid queens, for which I will take 35 cts. each, and guarantee safe arrival.
EZRA BAER, Sterling, Whiteside Co., Ill.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2.00 per year.

Those whose names appear below agree to furnish Italian queens for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A.I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 13tf
*Paul L. Viallon, Bayou Goula, La. 13tfd
*S. F. Newman, Norwalk, Huron Co., O. 13tfd
*Wm. Ballantine, Sago, Musk. Co., O. 13tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 15tfd
*Thos. H. Trice, New Providence, Mont. Co., Tenn. 5-15
*D. A. McCord, Oxford, Butler Co., Ohio. 5-15
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3
*S. G. Wood, Birmingham, Jeff. Co., Ala. 13tfd
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*J. W. Keeran, 106 Washington St., Bloomington, McLean Co., Ill. 7-17
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5
*S. C. Perry, Portland, Ionia Co., Mich. 15tfd
C. Weeks, Clifton, Wayne Co., Tenn. 9-19
Will True, Chadwell, Clatsop Co., Oregon. 9-7
W. H. Proctor, Fair Haven, Rutland Co., Vt. 9-17
Theo. G. M'Gaw, Monmouth, Warren Co., Ill. 11-21
*D. M. Weybright, New Paris, Elk. Co., Ind. 11tfd
*B. W. Harrington, St. Catherines, Ont., Can. 13-23.
Jas. O. Tracey, New Hamburg, Ont., Can. 13tfd.
*F. S. McClelland, New Brighton, Beaver Co., Pa. 13-17
*S. P. Roddy, Mechanicstown, Md. 13-17d
*F. L, Wright, Plainfield, Livingston Co., Mich. 13-15d

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 7tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
C. P. Bish, Petrolia, Butler Co., Pa. 9-17

ITALIAN QUEENS.
THE VERY BEST-

1 untested queen,	$1 00
6 " "	5 00
12 " "	9 00
3-frame nuclei, with queens, 2 for	7 00
6 "	20 00

15 **W. H. PROCTOR, Fairhaven, Rutland Co., Vt.**

TESTED QUEENS, $2.00. Untested, $1.00. 4-frame nuclei, $3.50 and $4.50. Mississippi wax-extractor, $3.00. OSCAR F. BLEDSOE, Grenada, Miss. 3tfd

Given Comb Foundation a Specialty.

Also Apiarian Supplies. Circulars, and samples free
12tfd G. H. KNICKERBOCKER, Pine Plains, N. Y.

HONEY COLUMN.

CITY MARKETS.

KANSAS CITY.—*Honey.*—There is beginning to be some demand for new honey now at somewhat better prices, choice 2 and 1 lb. sections bringing 17@18c.; choice old honey, 1 ct. less. I am having more inquiry for ½-lb. sections than I anticipated, and I could use a few hundred pounds at pretty good figures. Who has any? Extracted dull and unchanged, 7@8c. *Beeswax*, 30 to 35c.

A WORD IN FAVOR OF ONE-PIECE SECTIONS.

In answer to friend Root's question in the last issue of GLEANINGS, as to whether or not I would class the one-piece section with the dovetailed as being objectionable for shipping purposes, I would say that nearly all the one-piece sections I have seen were more rigid than the dovetailed, though one of my shippers writes me that he is now gluing his dovetailed boxes, and they are then very stiff and firm. It strikes me this ought to be a very good box when put together this way, and I think the same treatment would also make the one-piece sufficiently strong, though nailing would, perhaps, be the surer plan. Of course, the better the box is filled with comb, the less liable it is to break out, and none but well-filled boxes should be packed; for even if they arrive at destination all right, they will spoil the sale of the crates they happen to be in. I have never seen the "Combined crate and shipping-case," so can't speak of its merits. The prime object is to have the honey appear as inviting as possible in the hands of the dealer, and this should be the aim of every one sending honey to market.

JEROME TWICHELL,
July 24, 1884. 514 Walnut St., Kansas City, Mo.

NEW YORK.—*Honey.*—In regard to honey, allow us to state: Our stock of comb honey is getting low; for the last two weeks we had a fair demand, and worked off more than we expected. We quote from 12 to 15c., according to quality. We received a few shipments of *new extracted white-clover honey*, some from Wisconsin, some from New York, both of excellent quality. We quote same at 9c. per lb. in bbls.; 10c. in kegs. New Southern strained is coming into the market in large lots, and selling at from 80 to 85c. per gallon.

Beeswax.—No change in beeswax. We quote prime Southern at 31 to 33c. per lb. The market is pretty well stocked, but very little demand.

THURBER, WHYLAND & CO.,
W. Broadway, Reade, and Hudson Sts.,
July 24, 1884. New York.

CINCINNATI.—*Honey.*—There is no new feature in the honey market. The retail and jobbing demand for extracted honey is good, and there is a fair demand from manufacturers for dark grades. It brings 6@8c. on arrival. We get only an occasional small shipment of comb honey, and make an occasional small sale. People do without comb honey very easily, unless there is an extra invitation. A good article brings 16c. in the jobbing way.

Beeswax.—There is a slow demand for beeswax, which brings 30@32c. on arrival. C. F. MUTH,
S. E. Cor. Freeman and Central Ave.,
July 24, 1884. Cincinnati, O.

MILWAUKEE.—*Honey.*—This market is just now in a sort of "between hay and grass," or, perhaps, to apply to honey, sweet and sour, as the old stock is nearly out of sight, and new not much in sight. The market is in a nominal condition, and state. White comb, 1-lb. sections, 14@15c.; 2-lb. sections, 12@13c. Extracted, white, in tin, 8@10c.; extracted, colored, in keg or pail, 8@9c. New might bring for 1-lb. sections, 16 cts.

Beeswax wanted at 35@38 c. A. V. BISHOP,
July 14, 1884. 142 W. Water St., Milwaukee, Wis.

DETROIT.—*Honey.*—The honey market has changed but little if any since last quotations. The demand is very light, a good article bringing about 17@19c.

Beeswax, scarce at 35c. A. B. WEED,
July 25, 1884. Detroit, Mich.

CLEVELAND.—*Honey.*—New honey is beginning to come in, but the demand for it has not opened, and consequently no price is established. We are aiming to get 18c. for best 1-lb. sections, 20 for ½-lb.; but no sales have been made. A. C. KENDEL,
July 23, 1884. 115 Ontario St., Cleveland, O.

NEW YORK.—*Honey.*—Sales of comb honey are slow as yet; no arrivals of new comb honey in this market. We have received a few shipments of extracted honey, which sold readily. The present outlook for prices on this season's crop is as follows:

Fancy white-clover, in 1-lb. sections, - - -	16@18
" " " " 2 " " - - - -	15@16
Fair to good white-clover, in 1 and 2 lb. sections, - - - - - - - - -	12@14
Fancy buckwheat, in 1-lb sections, - -	12@13
" " " 2 " " - - -	11@12
Extracted white-clover, kegs or small barrels,	8½@9
" dark grades, " " " "	7@7½
Beeswax, prime yellow, - - - - - -	30@32

MCCAUL & HILDRETH,
34 Hudson St., Corner Duane St.,
July 26, 1884. New York.

ST. LOUIS.—*Honey.*—There is no improvement in our honey market. Extracted in barrels, worth 6 to 6½c.; in cans, 7½ to 9c. retail.

No demand for comb honey. Dark, 10 to 12c. retail. Choice brings more when a sale can be made. Look for no improvement for a month yet.

Beeswax.—Our market broke on beeswax last week. Quote choice yellow, 31c.; mixed, 28 to 30c.

W. T. ANDERSON & CO.,
July 25, 1884. No. 104 N. Third St., St. Louis.

CHICAGO.—*Honey.*—Honey market is without much change since last report. The white comb, 1-lb. size, sells at 16c., when choice in appearance; the larger frames bring 14@15c., but there is very little demand for either. Extracted honey, very little demand, but prices are without change.

Beeswax, 30@37. Receipts larger.

R. A. BURNETT,
July 24, 1884. 161 South Water St., Chicago.

I have about 6000 lbs. of white-clover honey in sections for sale. It is very nice.

G. W. CHURCH,
July 23, 1884. Benton Harbor, Mich.

I have several barrels of honey, for which I will take 8 cts. per lb.; barrels hold about 25 gallons, and are well waxed. Honey nice and good. If you prefer, you may send the money to A. I. Root.

CHAS. KINGSLEY,
July 18, 1884. Benton, Bossier Co., La.

FOR SALE.—Two barrels of nice honey, for 9 cts. per lb. No charge for the barrels, and delivered on board cars at Battle Creek, Mich., free.

In allowing notices of honey for sale, also black and hybrid queens, in GLEANINGS, free of charge, you confer a much-needed privilege to your customers, for which you deserve many thanks.

W. S. WRIGHT,
July 15, 1884. Battle Creek, Mich.

NOTES FROM THE BRIGHT-BAND APIARY ABOUT THE COMING BEE.

KIND FRIENDS, I am glad to state that I never sold queens that gave as much satisfaction as does the cross between Italians, Cyprians, and Holy-Lands. They are undoubtedly less apt to sting than any race of bees; and for honey, I shall not hesitate for a moment to state that they beat them all; and for beauty, I only ask you to send two letter stamps for a sample of live workers, and see for yourself. I can also furnish the very best queens, raised from imported Italians, to those who prefer them. Price of either race, untested, but laying, 90 cts. each. Tested, $1.50 each. Full instructions sent with each queen, and safe arrival guaranteed.

FOUNDATION BY MAIL.

I will furnish good foundation *by mail, postpaid*, at 65 cts. per lb. This is to be 7 inches wide, and whatever length you want. Sample free. Make money orders payable at Shreveport, and address

CHAS. KINGSLEY,
15-tfdb. Benton, Bossier Co., La.

For Italians at 60 Cts.,
Or $5.00 Per Dozen, Address
DR. JOHN M. PRICE, TAMPA, HILLSBORO CO., FLORIDA.
15tfd

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES, HONEY & HOME INTERESTS

Vol. XII. AUG. 1, 1884. No. 15.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

NOTES FROM THE BANNER APIARY.

NO. 57.

REPLY TO PROFESSOR COOK.

YES, I well remember what Bro. Cook said to me about burying bees, and it is quite probable that I smiled a wise smile in reply; and now that he should write and say, "I told you so," is only human; but, joking aside, his advice is good; we *should* leave off hasty conclusions.

Three years ago I buried 11 colonies, all except one very weak; one came through in fine condition, as did those out of doors and those in the cellar. The next winter I buried 32 colonies, and 27 came through alive, some of them strong, some in fair order, and others weak; only one colony wintered out of doors came through alive (that had sugar stores), while two-thirds of those in a well-ventilated cellar, which is, I believe, Bro. Cook's favorite place for wintering bees, died of dysentery; and I believe a few others have had bees die in large numbers in just such cellars. Bro. C. says I "ought to have buried a *few*;" further on he says, "Had he said last fall, 'I shall try two or three colonies,' he would have done little or no harm by his words." Let us carry this line of reasoning a little further; do these little "two or three colonies" experiments do any *good?* Do they prove any thing conclusively? Is not that the very thing that Bro. C. is writing against, drawing conclusions from insufficient data?

Bro. C. says that two of my neighbors are my companions in suffering. I fear he read that paragraph rather carelessly. I said *one* man who buried a *large number* was a sufferer, while another who buried only *three colonies* lost none. On page 444, July No., Bro. York mentions a similar experience.

Now, in all my experimenting and writing, I am actuated only by a sincere desire to learn the truth; I try to have no desire that a certain experiment shall prove successful, or a certain hypothesis prove true, and I am willing to be beaten in all my arguments, if, in so doing, I learn the truth; in fact, when I see that I am wrong, and my opponent right, it is a pleasure for me to say to him, Your head is clearer than mine. I have always written of my work within a short time after its performance; because, like Bro. Clarke, I do not believe in keeping a secret for two or three years, and working away at it alone, when by taking others into my confidence some one may be started on the road to some important discovery, which I alone might never discover. It is possible that I err in giving conclusions too hastily, and I thank Bro. C. for calling my attention to the matter, but I always give the facts from which my conclusions are drawn; and if others can draw conclusions that are more correct, I shall be thankful. Bro. C. was once very vehement in his denunciation of dollar queens; but *now* he advises the purchase of them; and I fear he will also be forced to change his views in regard to the "burying enthusiasm" being "nipped in the bud," because *one* loss does not "nip" *my* enthusiasm. I shall continue to bury bees until, as Bro. C. says, "a generous number of examples makes a real demonstration."

SEPARATORS.

In your remarks, Bro. Root, following those of Bro. Cook's, you again bring up the subject of separators; and Bro. Pond, on page 449, says, "He (W. Z. H.) is positive that separators are not needed by bee-keepers generally." Is it possible that my position in regard to separators is yet misunderstood? If so, I ask for elbow room in which to explain. I believe that any one can dispense with separators, if he will adopt the proper fixtures and methods of management; yet I should not advise a *radical* change, *simply to be able to lay aside separators*. To be able to discard separators is only *one* of *several* advantages received by the use of such fixtures and methods as are employed by myself and others who have laid aside separators. In other words, laying aside separators does not allow one to adopt improved fixtures and methods; but adopting improved fixtures and methods enables one to lay aside separators. If every one now using separators should simply lay them aside without also changing fixtures and methods, it is very probable that every one would soon have his separators back in place. The first and most important step in dispensing with separators is to use sections of such a width that the bees can build their combs of natural thickness; *i. e.*, 1⅜ inches from center to center. Of course, this thickness can be slightly varied; but the nearer it is approached, the better are the results secured. There is also another important point: The thinner the combs, the sooner is the honey ripened and sealed over; and the sooner it can be removed, and the bees be at work upon new combs. I am this year using sections 1 11-16 inches wide; also a few thousands 1⅜ inches wide; and, sometimes, as we take off case after case of sections filled with smooth, white, straight, even combs, I can not refrain from saying to my brother, "I just wish Mr. Root could be here, if it were only five minutes. I think he would admit that separators could be dispensed with." Yes, and I often wish that all the brothers who use not only separators, but the complicated wide-frame and side-storing system, could visit us and see, with their own eyes, with how little work, comparatively, we can raise comb honey, the nice shape in which we secure it, and the amount that we can obtain. I know this sounds like boasting; but it is not written in that spirit, but, rather, with a feeling of sorrow that so many hard-working bee-keepers are lingering in the old ruts, when, if they could only be induced to give these improved fixtures and methods a fair trial, they would quickly adopt them and thereby save themselves many hours of back-aching labor, and secure more pounds of honey.

"But," says some one, "now see here, W. Z., that all sounds very well, but I have tried sections only 1½ inches wide, without separators, and I'll tell you just how it worked. The bees first began work in the sections in the center, perhaps three or four of them; when these were partly finished they began on the adjoining ones, but the middle combs were finished first, and bulged into their neighbors, and their combs into their neighbors, and so on until the outside comb was reached, which had a little unsealed honey upon one side of it, while the other side had nothing, the fdn. being curled up against the side of the case, and stuck fast. With strong colonies, and a good flow of honey, *you* may possibly secure passable combs without separators; but with ordinary colonies, and a *slow* flow of honey, *I* can't get along without them."

The above is no fancy sketch; I have been "talked to" in exactly this manner, and, so far as the speaker's personal experience was concerned, the truth was spoken. The trouble was just this: The bees were admitted to the surplus apartment too soon. There is nothing gained in the amount of honey secured by admitting the bees to the surplus apartment when only enough can be spared to work in from 5 to 15 1-lb. sections, while the trouble above mentioned is quite apt to be the result. Necessity, the present season, compelled me to make some quite extensive experiments upon this very point. When the season opened we had perhaps 1000 sections all ready for the bees. When we thought it necessary, or, rather, as fast as we thought it advisable, these sections were given to the bees, and, sometimes, a case would be given to the bees when they would not begin work at once in more than one-half the sections. As explained before, the season came on with a rush, while sickness and an accident delayed us, and before we had sections on all the hives, some of the bees were hanging out for want of room, and I did worry a little at the amount of honey that I *supposed* we were losing. Note the result: When a case of 28 one-pound sections was placed upon a hive from which the bees were hanging out, it was usually only about *twenty minutes* before the case would be literally filled with bees; in 24 hours the fdn. would be nearly drawn out, and considerable honey stored in it, and in perhaps three or four days the bees would begin capping the honey, and be ready for another case, while those colonies that were given sections *first* were no further in advance, and in some instances not so far. I think no one will fail to see that the second point in dispensing with separators is to keep the surplus apartment filled (not necessarily nor advisedly *crowded*) with bees, and this can be accomplished, even with ordinary colonies, and at a time when honey is coming in slowly.

The third point is, to *fill* the sections with fdn. I have tried putting in a "starter," also putting in pieces of fdn. of different shapes and sizes, but nothing secures such true and even combs as filling the sections *full* of fdn., except an ⅛-inch space at each side, and a ¼-inch space at the bottom.

W. Z. HUTCHINSON.

Rogersville, Mich., July 15, 1884.

I guess your head is pretty level, friend H., on your plan of dispensing with separators, and I know it is a pretty good thing to know just when to give the bees access to a case of sections. Your plan of waiting, however, until they hang outside on the hive, would, if I am right, be very apt to start the swarming fever, and I think, also, be the means of losing considerable honey, where the honey-yield is of short duration. I suppose, too, you recognize that a good many of us are thinking, while reading your instructions, that you are a comparatively new hand on comb honey, while Doolittle and others who work so differently have had years of experience in this same line. No matter, however, if you continue to get good results. I confess that I was a little anxious, while reading your article, to know about how many colonies you have now working for comb honey, and about how much comb honey you will get.—Admitting that separators can be dispensed with, will all bee-keepers be likely to agree that it is more profitable to dispense with them than to keep them? Our Simplicity sections made only 1½ inches wide will hardly hold a pound of honey as they do now, so we shall be reducing the weight of our one-pound sections, if we do not reduce the size of them.

HERMAPHRODITES.

FRIEND COOK GIVES US A LITTLE LECTURE ON NATURAL HISTORY.

OUR friend E. M. Hayhurst sends me a curious bee, with this note: "I send you to-day quite a curiosity—a worker-bee with the posterior arrangements of a drone. He is a diminutive little fellow, but appears to enjoy life as well as HIS sisters."

Hermaphroditism is the union of the sexes in the same individual. As it is not common among higher animals, many no doubt will regard the whole matter as a delusion, as they do the equally well-established fact of parthenogenesis. Among plants, hermaphrodites are very common. We all know that both male and female organs are not only on the same tree, as in the walnut, but are usually in the same flower. All our common flowers have both stamens (the male organs) and pistils (the female organs).

There are, however, many trees that are bisexual, or, as the botanist terms them, diœcious. The willow illustrates this class. Here the stamens are on one tree and the pistils on another. Plants that have only the pistils (female organs) are called by the botanist pistillate; those with only stamens (the male organs), staminate. Many of our strawberries, like the Manchester, are pistillate, and so depend on the near presence of other varieties, with stamens, to fertilize them, and render them productive. In such cases the bees and other insects must serve as "marriage priests," for the pollen must be carried, often for quite a distance. Our horticultural students think that the berries are materially different when fructified by pollen from different varieties. Thus the Manchester, a pistillate variety, is good to produce very excellent or poor berries, depending on the kind of plants near by from which the fecundating pollen is received. Here, then, is a great field for investigation and improvement. Here, too, is where our bees are of immense value to the pomologist and gardener—a service, I regret to say, that is not always appreciated.

Very many of the lower animals are hermaphrodites. The sponges, the coral animals, many worms, and animals as high as our snails, are illustrations. Many such animals, like our common snails, are, however, incapable of self-fecundation. Nature seems to hate close fertilization, and is very free to set her seal of disapprobation upon it. Unless bees cross-fertilize our plants, she lessens the productiveness. Many hermaphroditic animals are rendered incapable of self-impregnation. In our snails, the date of maturity of the male and female organs is not the same, so cross-fertilization is impossible. The same is also true of our common earth or angle worm; though each worm is a hermaphrodite, they mutually fecundate each other.

There are no true hermaphrodites among insects. The nearest related animals which combine the sexes in one individual are the mites, some of which are hermaphroditic. The so-called hermaphrodites among insects (specimens of which I have often seen) are such only in appearance. The specimen sent by Mr. Hayhurst illustrates this so-called hermaphrodism. This bee, so far as the head and thorax are concerned, is a worker. The ligula is long, the jaws strong, the maxillæ large, the eyes separate above, the simple eyes (ocelli) back on the epicranium, and the posterior legs have the pollen-baskets, so in all these respects it looks exactly like a worker. The abdomen, on the other hand, in color and in form, is that of a drone. Examination shows that he has the sexual organs of the drone, and so is a male bee. Mr. Hayhurst then stated it correctly in speaking of *his* sisters. As I state in the Manual, whenever, in these apparent hermaphrodites, the abdomen resembles that of a drone, I find the real sex is male, and vice versa.

This apparent hermaphrodism is not confined to the lower animal life. Our butchers often observe similar phenomena among cattle and sheep, and such cases are recorded of the highest of all animals.
A. J. COOK.

Lansing, Mich., July, 1884.

Only last week a very pretty three-banded worker-bee was sent us, having the head of a drone. The bee was in a cage with other bees, and was bright and lively when received. I have always regarded these as deformities, and have passed them by without much attention. However, they are interesting in this respect, as it proves that an animal may live, and be bright and active, even though it has a worker's body and a drone's head.—This matter of fertilization of plants and animals is one of wonderful interest, and it is highly important that we understand it.

FLORIDA.

A little Sketch from one of our Prominent Bee-Friends in the South.

ALSO A VIEW OF A SEMI-TROPICAL APIARY.

I SEND you by to-day's mail a photograph of one of my bee-shades, and also one of myself. The bee-shades are covered with palmetto-leaves during the summer, and left without cover in the winter. I make them high enough to allow of walking upright beneath them, which makes it very pleasant to work with the bees during the hot days of summer, and especially so as we always have a fresh breeze during hot weather.

In reference to myself, if you should see fit to refer to me, I will say that I came here a poor boy, having lost every thing I possessed, by the burning of a Mississippi boat while on my way down from the North. The three first years every thing seemed to work to my disadvantage; fires, storms, lightning, and sickness, headed me off at every turn, and took every thing I made, and more, so that, at the end of the three years, I was $245 in debt. I had managed to get a couple of swarms of bees by this time. By hard work, hard study, and the help of my bees, I paid the last dollar I owed, and then for the first time set out a few orange-trees on my own land. Since then I have prospered beyond my most sanguine expectations, having 100 colonies of bees in fine shape, with the best outfit of fixtures in the State; four as fine young orange-groves as there are in the State, and considerable first-class real estate besides. I have taken up a prominent part in building up and settling the surrounding country, and my advice is sought for in many directions by my neighbors.

When I came here I knew nothing of the bee business; but seeing that they did well, caused me to take an interest in them; and when, soon after, I ran across Rev. L. L. Langstroth's book, and sent to you for a few copies of GLEANINGS, I began to think they could be made profitable. I read every thing I could find in regard to bee culture, and coupled practice with study. The result is, that, instead of the few hundreds of pounds of honey per year that were then produced in this neighborhood, we produced last year over 50,000 lbs. By my efforts to encourage other bee-keepers to come to the State, and also to instruct those already here, I have been the means of exciting an interest that is giving grand results. I have been much helped in this by being elected Vice-President of the N. A. B. K. Society for the past three years, for this State. Last fall I took a trip north, and attended the Kentucky bee-keepers' convention, and was made an honorary member; I also attended the Toledo, O., and Toronto, Can., conventions, meeting for the first time with the bee-masters that I had known so long by reputation only; and to say that I found them pleasant and agreeable people does not begin to give a hint of my good opinion of them. But, I will refer to that at another time, in some article for publication. I took along samples of my honey, and was truly gratified to hear those men, whose lives had been spent in honey production, pronounce it equal to the very best, and some even pronouncing it unequaled.

Now, with the reputation of our honey established, many skillful and successful bee-keepers in the State, large premiums offered at our fairs, and inquiries coming in from all over this country and Europe in regard to the industry here, I feel that bee culture is on a solid footing in this State, and that this state of things is more directly the result of my efforts than those of all others combined.

I do not write the above for publication, or I should have written only on one side of the paper, and more modestly; but to give you a few points, if you choose to give a short sketch when you bring out the engraving of one of my bee-shades, as you proposed to do when I met you at Toronto. I will also say, that my smallest *average* yield of honey *right through my apiary* was obtained last year, and amounted to 130 lbs. per colony, my largest yield being 200 lbs. per colony. I do not think that has ever been badly beaten for the term of years and number of colonies that I have had.

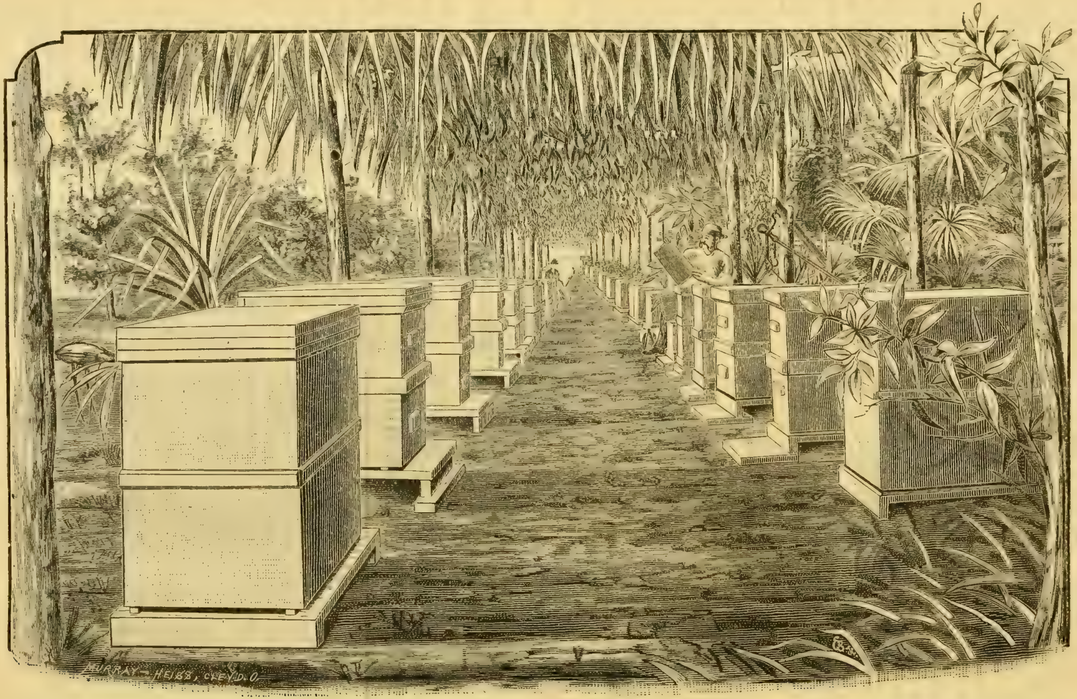
W. S. HART, NEW SMYRNA, FLORIDA.

Now, in closing I will say that I am not likely to trouble you again with so long a letter; but I have been too busy to write for a long time, and so made one job of it. With kind regards,—

Yours, etc., W. S. HART.

New Smyrna, Fla., May 23, 1884.

Friend H., I do not know how you can think it troubles us to get letters like the above; and although it is quite evident you did not intend your kind words for publication, I have taken the liberty of giving them entire, and I am sure the bee-friends will gladly excuse me for so doing, as we are a sort of family circle here, and rejoice in each other's prosperity as if we were *bona-fide* brothers and sisters; and, come to think of it, I guess we are, after all.


MURRAY-HEISS, CLEV'D.O.

APIARY OF W. S. HART, NEW SMYRNA, FLORIDA.

There is an excellent moral in your little story; and that is, that where one may be working for even three long years against seeming disadvantages, he may be at the same time schooling himself for future successes. I have sometimes thought, of late, that my former reverses and bad luck, as it might be called, had, as it were, made a good solid background or foundation to build on. Some of the boys and girls here think, sometimes, I am pretty vehement because I make such a fuss about a little bit of honey being left around the factory where the bees can get at it, and I presume it would be a pretty hard matter to convince some of them that I knew just what I was about. But it is this very thing that enables me to steer clear of mishaps; and were it not for the recollection of burnt fingers and heavy losses of years ago I should never be able to do it.

Friend H., I was much impressed when I met you (although we had time for only a few brief words), at your devotion, not only to bee culture, but to the best interests of our people at large, and especially your interest in the recent developments in your State. May God bless you and your work among our Southern friends! I have been wondering if it should be really my pleasure to stand beneath that tropical foliage, and have a chance to walk about in your pretty apiaries.

MAKING FOUNDATION FROM ONE CONTINUOUS SHEET.

SOME SUGGESTIONS IN REGARD TO DOING IT WITHOUT EXPENSIVE MACHINERY.

I WAS so busy, when I last wrote, that I could not describe, as fully as I wished, my method of making endless foundation, and will now explain more fully.

After trimming my sheets of wax I take a glass bottle and lay it in the soapsuds or starch solution. I dip the ends of the sheets in warm water, to soften them, if the weather is a little cool; if summer weather, we can dispense with the warm water, as sheets will be soft enough; flatten out wedge-shaped each end of wax; if any water is on them, rub off with cloth; take brush, dip it in melted wax, brush it across the end of sheet quickly; put end of other sheet down on the end brushed quickly; give the lap a stroke with brush. Now take your bottle and press the ends firmly together. You can weld as many sheets together this way as can be conveniently handled, or you can roll them around a light drum, 18 or 20 inches in diameter. You can have in this way a roll of sheets as long as a sawmill belt on the drum. The drum should be nicely adjusted in rear of the machine, or the pull of the machine will unwind the roll; or you can unwind 8 or 10 feet, and let it lie on a long plank; 4 or 5 feet at a time would be better.

So much for the sheets; now I will tell you how to take the foundation from the machine in a roll. Adjust a drum in front of the machine so that its surface will be level with the point on the upper, from which you wish to pull foundation; have ends of axle-drum to rest on bearings that will work on a slide or groove in the upright pins that support the drum, so that you can depress the drum in a downward direction, in order to keep the top surface level with the point on the roll at which foundation is pulling off. A nicely tempered spring should be adjusted at each end of axle, on side of end, thus making the side-bearing press against the spring, and the pull on the sheet equal and uniform.

J. R. PARK.

La Vergne, Tenn., June 7, 1884.

I will explain to the friends, that the glass bottle is used to press the ends of the sheets together, because it is smooth and hard, and leaves the wax freely, especially when lubricated. We have rolled fdn. in endless sheets almost on the plan given above; but where the joint comes it is so very apt to separate, and a part stick to one of the rolls, we have finally laid it aside in favor of the plan now given in our A B C book; namely, dipping two lengths of sheets at once; that is, dipping first one end of the dipping-board, and then the other. This makes the sheet about as long as can be handled conveniently; and when these sheets are piled up, and a board of the proper size laid on them, we cut accurately a pile of sheets very quickly. Many thanks, however, friend P., for the suggestions.

HUMBUGS AND SWINDLES

PERTAINING TO BEE CULTURE.

THE GOLDEN HIVE.

THERE has been a man in this neighborhood, or, in fact, two or three of them, selling the "Golden bee-hive." He (or they) have sold dozens, probably hundreds, of "farm rights," for this hive, for $10.00 apiece. He comes apparently well recommended. He comes daring to be recommended by a certain A. I. Root, editor of a bee journal in Ohio, and shows in said paper (a copy of March, I believe) a piece in Heads of Grain where some one claims, or asserts, rather, that the said Golden hive beats all creation and a little more, to get honey from. I did not read the piece; but if what he said is true, then this A. I. R. had better be a little careful about giving recommends, even unintentionally, to these chaps to carry away hundreds, and perhaps thousands of dollars, from the honest farmers who are seeking knowledge in the matter.

G. W. WILLIAMS.

Economy, Ind., July 19, 1884.

Friend W., there has been a notice in Heads of Grain, showing that bees will store honey, even in the Golden bee-hive; and we have also given such notices from Mitchell's hive, and Mrs. Cotton's Controllable hive as well. The idea was to give space for a good report from any hive, no matter whose. These hives may be good to keep bees in; but we have endeavored to say all along that there is no necessity for paying anybody for the privilege of using them, or any combination containing principles found in them. The man who showed the copy of the journal took very great pains that it should not be known what was said of the Golden bee-hive in other places and in other numbers. Tell us his name, and we will give him a free advertisement. We have searched the March number all the way through, and can not find any recommend in it for the Golden hive. Can you or any one else tell where it is?

TAKING BEES THAT ARE TO BE BRIMSTONED.

WILL IT PAY, AND HOW SHALL WE GO ABOUT IT?

WILL you please tell me whether, in your opinion, it would pay for me to take bees of people that are taking them up in the fall, bees to cost nothing? and how shall I get them in Simplicity hives, and prepare them for winter, without empty combs, and with foundation? If it would pay, I could get lots of bees. I am building up. **FRANK WADE.**

N. Chemung, N. Y.

Friend W., if you want bees it will pay tiptop; in fact, I do not know of any way in the world you can get bees cheaper than in this way. The only reason I have for disliking to recommend it is, there are so many people who are shiftless and half-hearted; and if they set about it, they would neglect them, and so waste their time and money.—I would not use the Simplicity hive at all at this season; that is, I would not commence with the Simplicity, because if you do you will need to change in a month or two; and for building up destitute colonies, getting them to build comb, and fill and seal it, a chaff hive is, on many accounts, the best. When you are feeding regularly, they are a much better protection against robbers. A colony that is being fed will often get careless, and the bees will fail to defend themselves. The reason is, that where the stores come naturally, all colonies are busy alike, and therefore no robbers are about: but when we feed to get them to build the combs by artificial stores, the case is different. I think empty combs would be a little better than foundation for this purpose, or frames of fdn. partly built out. If you have not got them, you can do very well without, but I should try to give at least one comb of unsealed brood to hold them together and start them to working. If the bees you purchase or get for what the wax and honey are worth have already got brood and stores, the best thing will be to get them home and transfer them according to directions for transferring in the A B C book, then fill out with frames of fdn. so as to give each colony about six combs. Unless there is a very great quantity of bees indeed, I would not have over six combs. Put them up to the south side of your chaff hive, and put in a division-board; the chaff-cushion division-board is best. Now commence feeding, giving them a Simplicity feeder full every night. Fold back the enamel sheet so as to expose perhaps half an inch along the ends of the combs, and set the feeder close to this opening. Have the bees take the feed all down every night, if you can. A Simplicity feeder filled once a day will make comb-building and brood-rearing go on with a boom, and will enable them to accumulate sufficient stores for winter, if you commence now. By feeding at night, all the flying bees will be at liberty to gather pollen and what honey there may be, during the day. I would feed nothing but granulated-sugar syrup. If fed as mentioned above, pouring dry sugar into the feeder, and wetting it with water, will do as well as any way, only it may not be all taken up clean each night. On this account it would perhaps be best to make a syrup by boiling slightly 20 lbs. of sugar to a gallon of water. If done as directed above, I should say it was a very safe way to get bees to start an apiary. Black bees are about as good as any for this purpose. If you can give them an Italian queen in place of their black queen, by winter you will have a chaff hive full of yellow bees. The question now arises, How much can you afford to pay for bees for this purpose? Of course, it depends on whether you want bees or not. If you want to stock an apiary, I should think you might afford to pay 50 cents per pound for the bees; if you get them for 25, your investment would be a still safer one. I have figured, in the above, that it would be all outlay and no income; that is, no income until another season. If you are in a locality where they have fall pasturage, however, you might do quite a nice thing this fall with them; but in such localities you would not be likely to find anybody who is going to destroy his bees at this season of the year.

WHAT THE OUTSIDE WORLD THINKS OF US.

A CLIPPING FROM THE N. Y. SUN.

WE give the following, not because we indorse it, but because there is considerable information in it, and some good points made. The blunders the writer or reporter fell into are enough to provoke a smile, especially the matter in regard to honey from red clover.

"While California is the greatest bee-ranching or honey-making region in the world, owing to the excellence of its climate and the endless variety of its honey-yielding flowers, the quality of its honey does not excel, even if it equals, that of the honey made in New-York State," said a large wholesale dealer.

"One of the most extensive bee culturists in this or any other country," he continued, "is Captain Hetherington, whose apiaries along the Cherry-Creek Valley, in Schoharie County, annually turn out over one hundred thousand pounds of the choicest honey. It takes nine men and two steam saw-mills five weeks to prepare the lumber for the boxes in which the honey is made by the bees. Nearly 150,000 panes of glass, about six inches square, are used in these boxes. Captain Hetherington has at work this season nearly 2500 swarms of bees. These are not all on his own premises, but are scattered among the orchards and fields of farmers along the creek, to whom he pays a rent for the privilege of his bees working in the clover, buckwheat, or whatever blossoms are in season on the farms. The care of these bees does not fall upon the owner of the land. Captain Hetherington keeps men and teams constantly employed looking out for them. He has received as much as $25,000 for one season's crop.

"Another large York-State bee-keeper is C. B. Isham, of Peoria. Up to 1879 there was no market in England for American honey. The English dealers would not handle it, and the periodicals devoted to the interests of bee-keepers in that country cried it down in every possible way. The reason for this was, they knew the superiority of American honey, both in flavor and appearance, over the British article, and were aware that if it were once introduced in London it would be a great blow to the trade in the home supply. There was a shrewd Yankee named Hoge working for a grocery in this city, and he assured his employers that, if they would give him the commission, he would manage to place American honey on the English market. A lot of Isham's honey, which the firm was then handling, was packed, just as it came from the hive, and Hoge was sent to London with it. He found he needed all his Yankee ingenuity and acuteness, for he met with universal opposition among the dealers. He labored with them for weeks, to no purpose. In conversation one day with the proprietor of the hotel at which he stopped, the latter told Hoge that if he could manage to have his honey introduced on the table of Queen Victoria it would solve the problem at once, for if she were pleased with it she would communicate to Hoge through the Lord Steward. This communication once made public would make American honey the fashion in England.

"A former Lord Steward was a friend of the hotel-keeper, and was at that time engaged largely in the manufacture and sale of pickles. This man the landlord introduced to Hoge. They dined together. Hoge gave the pickle man an immense order for his goods, to be sent to the American grocer. More wine followed; and before the Ex-Lord Steward went away he promised to use his influence to have the American honey introduced on the royal table. He succeeded in inducing the then Lord Steward, Sir John Cowell, to accept a box of honey for the Queen, and to serve it on her table. The Queen was so delighted with the honey that she directed the Lord Steward to present her thanks to the donor, to order a supply of ten cases at once, and to keep American honey constantly on the royal table.

"Hoge lost no time in making this communication public. The consequence was, that the opinion of American honey changed at once, and Hoge came back to New York, secretly laughing at the Britishers, but rejoicing over an order for half a million pounds of American honey for the English markets, which he carried in his pocket. The demand for it has increased ever since, and the trade that was started in New-York State honey is now largely shared by the California product.

"In California there are no long winters, with dearth of flowers, through which the bees must be fed by artificial means, and in the mouth of almost every cañon there is a bee ranch or apiary. The bee-keeper of the Pacific Coast is not beset with as many difficulties as confront his Eastern brother, and he grows indolent and rich from the labor of his ever-industrious, brown-winged servants. These bee-ranches are models of neatness and comfort, and the business is so light, pleasant, and profitable, and requires so little capital at the start, that it is fast becoming the leading industry in many localities on the coast. You see men, women, and children, who own extensive bee-ranches, among them being many who are physically unable to attend to business requiring active superintendence. There is a constant buzzing of wings in these cañons, caused by the endless goings and comings of the bees, and the burden of honey they carry collectively is so great that the air is perpetually filled with the fragrance of the fields."

"Why do we never see red-clover honey advertised?" asked the reporter.

"For the simple reason that there is never any made by honey-bees. There is no blossom so rich in stores of sweetness as the red-clover blossom, as every school-boy whose privilege it is to pluck them and suck their nectar, well knows. But the honey-bee never collects it, because it can not. The corolla-tube of the red clover is so deep and small that the bee can not reach the honey. The bee knows this, and, if you will think a moment, you will remember you never saw a hive bee on a red-clover blossom. They do not waste their time in efforts to obtain sweets that are beyond their reach. But the bumble-bee levies tribute on every red-clover field in his bailiwick. As smart as the hive bee is, it has yet to learn a trick that is as old as the hills to its gigantic and more stupid-seeming cousin. When a bumble-bee alights on a head of red clover he punctures a hole in the base of the corolla, and, thrusting in his tongue, sucks out the nectar. Unfortunately, this big clumsy bee is not much of a honey-maker. You might rob a score of bumble-bee nests and not obtain a quarter of a pound of honey; and, besides, his nests are few and far between. Consequently we shall have to wait until the hive bee learns to drill into the blossom to get the nectar before we can have red-clover honey for our waffles."

I presume friend Hutchinson could reply to that item about women and children who are "physically unable" to attend to business, succeeding as bee-keepers. The part about bumble-bees drilling into the clover-blossoms has a sprinkling of truth about it, I believe, for these bees do puncture the forget-me-nots, something in this way. The idea that hive bees are never seen on red clover is rather amusing, and we can not quite explain it by saying the writer must have taken his points before Italians were introduced, for *black* bees have been found on red clover, more or less, almost every season. I really hope it is true, that Captain Hetherington employs "nine men and two steam saw-mills five weeks" to prepare his honey-boxes, and that he has 2500 swarms of bees. The idea of paying rent for the privilege of allowing the bees to work on clover and buckwheat is a new one, and I hope it is a fact, for it looks like getting bee culture on to a solid basis. In 1879 we gave a sketch in which mention was made of the way friend Isham's honey was brought to the notice of the Queen.

PROFITABLE NUCLEI.

ALSO SOMETHING ABOUT GETTING COMBS ALL WORKER WITHOUT THE USE OF FDN.

ON page 443 of GLEANINGS I told you how I united bees; and in conclusion, said that in the Aug. 1 No. I would tell what I did with the little colony of bees left in No. 1, so as to get a good profit from them. You will remember that in this (No. 1) hive, we had one frame of brood, bees, and queen, together with an empty comb, all shut to one side of the hive by means of a division-board. As soon as the bees from No. 2 fly to any extent, the old bees taken with the combs from No. 1 while uniting, will return, which will give bees enough in our little colony to make a good strong two-frame nuclei. In three or four days the queen will have the empty comb filled with eggs, at which time I put in an empty frame between the two full ones. As this little colony has no desire to swarm, or for any thing else save to increase its number of worker-bees as fast as possible, they go right to work and fill this frame with as nice and straight a worker-comb as was ever seen; and this, too, when colonies having no such desire for workers will be doing comparatively nothing at getting honey or any thing else. Also at such times I have known a new swarm to fill a hive with comb and brood in two weeks, while a colony which had not swarmed, or a swarm hived on empty combs, would not store 3 lbs. of honey during the two weeks. From this I conclude that the idea that 1 pound of wax costs 20 lbs. of honey, is erroneous, when the bees have access to the fields and plenty of pollen. In about a week this comb is completed, when it is taken out and given to some colony that needs just such a frame of comb and brood, while another empty frame is given which is again taken out when filled, and thus we keep on to the end of the season, when several of these little colonies are united together so as to form one good colony for winter. The extra queens are sold, or used in replacing old ones. In this way I have gotten as high as 15 beautiful worker-combs built by one of these little colonies, and all done by the bees which hatched from the two combs they had to start with, which (15) combs *I* consider cost me less than to have bought foundation, paid the express on it, and bothered with fitting it in wired frames.

By carefully looking over the above, friend Hasty will see how he could have secured much more wax than he did by the experiment he tried a year ago.

Another way to make this little colony profitable is to use it as above till I get ready to take away the first comb built, when, instead of taking it away, I spread the three combs apart and put two empty frames between them. In from ten days to two weeks these will be filled, when two more empty frames are put in which will usually be filled with worker comb, but not always; for by this time they begin to get so strong that some drone-comb will be built. When they will not build worker-comb any longer, the hive is filled up with worker-comb built by other little colonies, so that in the fall I have a nice colony for wintering. Still another use I put them to quite largely, is to wait till they get the first comb built, when the queen and frame of brood we first had in the hive, bees and all, are taken out and carried to another empty hive where it is left, together with a frame of honey, to form a separate nucleus; for in this way the most of the bees will stay with the queen. In a week or so, or as soon as they get established at the new place, the queen is sold, or taken away and used, and the nucleus given a cell to raise another queen. A cell was also given to the bees left where she came from; and as soon as the queen from this cell gets to laying, she and the frame of empty comb, which was given them at the time of uniting, are carried to a new hive the same as was the old queen, and thus I have three good nuclei from the little colony. In forming nuclei in this way I always take the frame away with the queen that has the most brood just hatching, so that the young bees will take the place of what old ones will always return.

In the above I have given you some of the ways that small colonies of bees can be used to advantage. I now come to friend Root's question, "Why not, when you have got the small colonies up to five frames of brood, go right on in the same way, until each one is separately built up to a full colony?" If I were working for extracted honey, I would do so; but when working for comb honey, both of these colonies would get strong enough so as to get the swarming fever right in the honey-harvest, which would spoil all the prospects of any surplus comb honey; for to let them divide themselves at this time would be ruinous, as far as surplus comb honey is concerned; and to try to prevent them from swarming would amount to about the same thing. I often try caging the queen, or setting her aside with a frame of brood for a week or so, *a la* Miller, Elwood, etc., but with me, such procedure brings poor return. In this, Mr. Cloe (page 457) will find the answer to his question. My object is to get the bees as strong as possible at the beginning of the honey-harvest, and this so done that they have no desire to swarm while said harvest lasts.

I wish all to bear in mind, that I write what is applicable to my locality; so if any feel disposed to try my plans, and should fail, please be charitable; for location often accounts for the difference of opinion existing among the "bee-doctors," as many of us writers are called. **G. M. Doolittle.**

Borodino, N. Y., July, 1884.

I know, friend D., you have given us an outline of this way of proceeding before; but for all that, it still seems to me a good deal mystified. You say if you build up the nuclei to full colonies they would swarm. Well, now, what in the world prevents all your colonies from swarming, especially those that were made strong by being doubled up just before the honey-harvest? A colony with a young queen is not as apt to swarm, I know; but when you get them up to such a degree of strength they are pretty sure to swarm any way, although if you get them well started in storing honey in sections, or in an upper story, for the extractor, they often seem to forget to get the swarming mania. I know a nucleus will usually fill frames with worker-comb, while a full colony will fill it with drone-comb, and I presume that is the idea of having the combs all made in nuclei not too strong.

DO BEES EVER SWARM WITHOUT A QUEEN?

SOME IMPORTANT FACTS IN THE MATTER.

IN June GLEANINGS, page 402, is a communication, "Do bees ever swarm without a queen?" I think they do not. But I do not doubt that swarms have been hived without a queen, for I have hived the same kind of a swarm. He says he was away from home when the bees swarmed, and when he came home the bees were clustered. The queen might have flown away when he put them down on paper. I recollect one swarm that I was hiving, when I put them down in front of the hive the queen arose and flew away. I saw her when she arose, but she never came back. I gave them a rack of brood, and they raised them a queen. I had another swarm that came out, and the bees clustered in one place and the queen alighted about three rods from where the bees were clustered. I had a swarm this summer, the bees of which clustered in one place and the queen alighted at another. Before I went to hive them I saw the bees were much dissatisfied, and I began to hunt for the queen, and found her sitting on a leaf about 6 or 8 feet from the cluster.

Finding a swarm without a queen is not, in my mind, conclusive evidence that the swarm left the parent hive without a queen, for there are many ways that the queen can get lost. If friend L. had known positively that the parent hive was queenless and then cast a swarm, that would have been positive evidence. He says they were hardly settled in the hive containing two frames of comb before they commenced coming out. That is evidence to me that they had a queen when they left the parent hive; and as soon as they missed her they began to hunt for her, knowing they had nothing to prolong life with. If he had not given them any brood, I think they would have gone back to the old hive; or, at least, that is the way they always do for me.

If this does not find the waste-basket, I may come again. **Jas. Huffman.**

Monroe, Wis., July 8, 1884.

Friend H., I am inclined to agree with you, although there are some who claim they have had queenless colonies send out a swarm which clustered regularly. One of the juveniles has suggested, as you may remember, that a fertile worker may lead off a swarm in the way a queen does.—There is not much danger, friend H., of an article lodging in a waste-basket, where it presents facts from actual experience, presented as clearly and concisely as you have done it.

BEE BOTANY,

OR, HONEY-PLANTS TO BE NAMED.

MANNA GRASS AS A HONEY-PLANT.

INCLOSE a specimen of plant which a neighbor found in a low piece of ground, and called my attention to it. Upon examination I found it literally alive with bees, and drops of honey hanging from the branches. It was then about 4 o'clock P. M. The plants were about three feet high, and covered about one-eighth of an acre. Will you please give the name of this plant?

FRANK D. CULVER.

Quincy, Mich., June 29, 1884.

A bundle of this grass was mailed us, and it had much the appearance of having been dipped in thick honey. I can readily imagine there might be a big uproar among the bees were a field exposed to them in this shape. We sent the plant to our botanist, and here is his reply:

The specimen of plant from Frank D. Culver, Quincy, Mich., is a species of "Manna grass" (*Glyceria fuitans*). It is found generally throughout the eastern and middle United States, in swales and swampy situations, where it grows to a height of three to five feet. All our grasses contain more or less sugar; but what should cause it to exude upon the specimen sent, I am unable to say, unless it be from insects troubling it.

W. S. DEVOL, Botanist.

Columbus, Ohio, July 14, 1884.

The point is, friends, is this only an accidental exudation from the foliage, or does this manna grass habitually secrete honey after this fashion? If the latter were true, it would bid fair to outstrip any thing yet known in the way of bee pasturage. Can friend Culver tell us if there were any indications of insect agency when he saw it? How long did this great flow last? and has he ever known bees working on it before? There is something to me a little strange in the name, *manna* grass. Can Prof. Devol tell us why it should have been given this name? In our back volumes something has been said in regard to the relationship of manna to honey.

BERMUDA GRASS.

Prof. Devol replies as below in regard to the inquiry on page 491, in our last issue. Has anybody else seen bees working on this grass? From the report, it would seem that it is an easy thing to raise.

The plant sent us under date of July 5, and called "Bermuda grass" (*Cynodon dactylon*), is correctly named. It is also sometimes called "scutch grass" and "wire grass." It is a low, creeping perennial; a native of Europe, but naturalized in many countries. It is by some considered a valuable pasture grass, while others regard it as among the worst of weeds. It seems to flourish best on the light sandy soils of the South, but is also found to do well in the Northern States. Once well established it is with difficulty eradicated from the land. Chemical analysis of the grass shows it to be of less value as a food for animals than many other of our common grasses. In regard to its value in the South, Prof. Killebrew says: "In Louisiana, Texas, and the South generally, it is, and has been, the chief reliance for pasture for a long time. * * * Hogs thrive upon its succulent roots, and horses and cattle upon its foliage. It has the capacity to withstand any amount of heat and drought."

W. S. DEVOL, Botanist,
WM. R. LAZENBY, Director.

Columbus, Ohio, July 14, 1884.

ARE QUEENS SUPERSEDED ONLY WHEN THEY ARE FAILING?

FRIEND EASTBURN GIVES US SOME FACTS IN THE MATTER.

JUNE, 1883, I received a very fine $1.00 Italian queen of D. A. Pike, of Maryland, which turned out to be a very prolific one. They wintered finely, and she commenced to lay very early this spring, and kept it up until June, 1884, and she seemed to be all right. June 12 I found a dead young Italian queen in front of the hive. About two hours after I found the dead queen, I saw on the ground in front of the hive my old queen I received of D. A. Pike. She was alive and lively; her wing being clipped, she could not get away, so I caged her, and examined the colony to see what was the matter. On the second frame that I lifted out I found a large and beautiful young virgin Italian queen. The reason I now knew, for I saw her the next day start on her wedding-trip. I also found two queen-cells. One torn open at the side accounts for the dead queen; the other cut at the end, to show that a queen had emerged. Then I introduced the old queen I saw outside of the hive on the ground, into a 3-frame nucleus hive in which there was a queen-cell. She was accepted at that moment, and the queen-cell destroyed. She commenced laying the same day, and I have raised several nice queens from her eggs since she was in the nucleus, and I lost her in introducing her to a colony of hybrids. Now, did you ever hear tell of such actions as this? I suppose the bees had led her out by the ear for some cause, right in the swarming season, and the hive crammed full of bees and honey, and nearly 24 sections full and capped, and they did not swarm.

The honey-flow is over with us, and a slim crop to what we expected. A very little increase this spring; out of 13 colonies I had only 4 swarms. I hived only one, and put the others back.

I see that you have added 20 new pages and 50 new illustrations to your A B C book. I do not want you to think I wish to dictate to you what you must do, but I thought that those of us who had bought the old A B C of you have not got those extra pages that are added to its volume, but it will not, I suppose, make so much difference to those who have got back numbers of GLEANINGS to refer to, but I have not. Now, would it not be an accommodation to many if you would print the extra matter you have added to your book, in pamphlet form, at a price to pay you? I know it would be to me, as I do not wish to buy another book to get those 20 pages, as long as mine keeps together.

JOSIAH EASTBURN.

Fallsington, Berks Co., Pa., July 14, 1884.

Young queens are very often raised before we can discover any apparent failure with the old queen-mother; but it is quite seldom, I believe, that they are driven out of the hive as in the case you mention. I have sometimes found queens out in front of the hive in this way, and on putting them back and removing the cells or young queens they sometimes go to work and stay quite a while; but I had supposed they were always a little on the decline. If the old queen in your case, after being introduced to the nucleus, laid eggs fully up to her average, it would seem to indicate that bees sometimes make a mistake.—In regard to the A B C book, the new matter is scattered all through, sometimes a single line or part of a line in a place, and it would be quite a difficult matter to collect it into a pamphlet of 20 pages, even if it would make sense. I will tell you, friend E., what I will do for you and others in the same predicament. Sell the book you have to somebody who does not care very much about the additions, and we will send you a new one for half price, in consideration. Won't this make it all right? Of course, you will need to tell, when you remit the half price, the reason why you do so.

BREEDING-TRAITS, AND REVERSIBLE FRAMES.

FRIEND HEDDON DISCOURSES TO US ON BOTH SIDES.

THE idea of breeding in and out certain traits of our bees is one that ought to enter the mind of every bee-keeper who ever rears queens at will. It is undoubtedly a fact, that every trait of character of which the honey-bee is subject, is susceptible of inheritance. The laws of heredity and variation invite every thoughtful apiarist to take advantage of them. The great rapidity with which we can repeat generations, is one great point in our favor. Full sheets of comb foundation in our brood-frames have given us almost perfect control over the class of drones which shall stock the air of our area.

Now I wish to call the attention of the reader to a possible chance for error. I wish to coin a phrase, to describe an accidental state of affairs which we must not look upon as character, and which we can not breed from. I will name it *present* condition. Let me illustrate: Four men start on the road to walk to the next town. One slips and falls, and breaks his ankle. Now, we do not expect his children to inherit broken ankles, or a disposition to fall and break theirs, any more than the children of the other three men. I look at all efforts to breed up a wintering strain of bees in much the same light as shines on the illustration above given. I account for the success or failure of a colony of bees in wintering, more upon the basis of "present condition." I believe that the consumption of pollen, either in the form of bee-bread or floating in the honey, or often both together, is the cause of the intestinal overloading called dysentery, which is our arch enemy. Now, I think that the position and quantity of bee-bread stored in the hive, and also the purity of the nectar stored, have mostly and mainly to do with the health of our bees, during their period of confinement. Now, this is mostly a condition of accident; and attempts at breeding winter strains will prove futile. I think that those who think they have a strain of bees superior in this respect are mistaken. I also think that the non-swarming tendency you speak of, Mr. Editor, is one that slow, yes, very slow, progress can be made in developing, as it so very much depends upon greatly varying circumstances, and different surrounding conditions. Since I have been breeding bees for good disposition and surplus-honey qualifications, I have discovered that I must carefully distinguish between *real* characteristics and "*present* conditions." I admit, that I wish both general and present conditions on my side of the question. I think this from theory, as seven years of practice with hundreds of colonies is not enough to allow me to *know* it by experience. I theorize, however, that in breeding bees for good nature we should all the time treat our colonies so as to keep their already comparatively good natures in a friendly mood. No doubt all have seen stocks of general good nature, temporarily in very bad humor. I think the Italian bees have been improved by artificial selection—a selection coming into use because we had two races of bees, and wished to supplant one by the other. I think in this we did well; but I think we do better when we endeavor to breed in the superior and out the inferior qualities of both races combined.

REVERSIBLE FRAMES.

I have now several thousand in use, of a pattern not yet described to the public. I wish to thoroughly test them first, under all sorts of conditions. Much harm has been done by rushing into print with half-tested fixtures—in fact, most of them not tested at all. "One swallow does not make a summer." The organ-grinder with his monkey can hardly be called a zoologist. "Mary had a little lamb," but, for all that, was not posted in stock-raising—could hardly be called a drover. A few hives show us something of the theory; the handling of many educates our very muscles, and through them our brain, and we then have some practical knowledge. We are then informed sufficiently to assume the right to give instructions to others, are we not?

When you lay aside the hanging "*laterally* movable frame" for any such device as the one you show, and call Hetherington's, I feel sure you make a mistake. When we are feeling for something better than the L. L. movable frame, suspended almost in air as it is, we owe it to ourselves that we feel our way very cautiously, for we well remember the many who have been bitten, and returned wiser and poorer. We are prone to take all our old familiar blessings as a matter of course. The older they get, the less we value them We are paying all our addresses to the new comfort. Finally to get it, we exchange several old ones, and soon their absence awakens us from our dream, and then we return, wiser and better contented. We should not be *too* conservative, but never too radical.

I thought when you published even your dream of exchanging our old time-honored laterally movable frame for one of fixedness that you were gaining the great advantage of reversing the whole hive with *all* its frames at once, and even then I fear it is a loss.

So far, our experience with reversibles has been that we are paid, and doubly paid, for making them. We have made them in such a way that they are worth all their extra cost, if never reversed. Again, the splendid solid framesful of comb we get for *once* reversing, repay us twice over for their extra cost, and the trouble of reversing. Now, we (five of us) are carefully testing the other results, expected by many to accrue from such reversing. How the bees will carry the honey from the brood-frames up into the surplus receptacles; how the emptying of such cells will give such room for the queen that we shall be able to show the largest colonies and swarms in comparatively small hives; models of compactness and economy; how we can bring our hives out at the close of the last honey-flow, in a starvation condition (all the honey having gone into supers, the market, and the pocket-book), giving us the privilege of feeding just what we know will master the wintering difficulty; more marketable honey, and a chance to feed without first going through that trying ordeal of extracting, after all honey-flow is over.

A few more weeks and we shall be able to report, and give you a cut of what we think the best reversible frame yet shown up. **JAMES HEDDON.**

Dowagiac, Mich., July 11, 1884.

Very good, friend H.; but I had no thought of laying aside our hanging frame for the Hetherington or any other reversible frame just now. We are simply keeping it in the apiary, and can still report that it seems to do first rate. But the hive has not yet been put through all the uses to which we subject hives. We should be very glad indeed to see some samples and drawings of your reversible frames.

REVERSIBLE FRAMES.

STILL ANOTHER PLAN.

A FEW words on the matter of reversible frames. To be thoroughly practical, a reversible frame must at least meet the following requirements:

1. The lateral movement must be as perfect as that secured in the use of the ordinary style of suspended frame.

2. The construction must be simple; in other words, there must be freedom from loose machinery and traps at the sides, which are only a temptation to the bees to propolize, and which would entail continual labor to keep in order.

3. To reverse the frame must consume no more time than it takes to simply turn it upside down in the hands, and then be at once ready to replace it in the hive.

4. There must be freedom from sharp points, edges, etc., of tin, at the corners, which, besides being liable to become bent, are disagreeable to handle.

5. The reversing device must be inexpensive, and capable of being easily applied to the ordinary styles of hanging frames now in use.

That I have devised a frame which fills the bill exactly in all the foregoing points, I leave to the judgment of all who will read my description of it, but especially to those who possess sufficient interest in the matter to spare about 5 cts. in cash and 10 minutes' time to give the thing all that will be necessary in the way of trial. To make the frame, proceed as follows:

The upper and lower bars should be of the same thickness, ⅜ inch; the end-bars may be ¼. After the frame is lightly nailed together, sufficiently to keep its parts in position, carefully drive into each of the 4 corners 2 wire nails, placing them about ½ inch apart, and parallel with each other; do not drive the nails completely home, but leave 7-16 of an inch projecting. It is by these projecting portions of the nails that the frames are suspended on the metal strips above the brood-chamber. The wire nails should be about 1¼ inches in total length, and, if carefully driven into position, there will seldom if ever be any splitting of the wood of the frames.

This completes the arrangement of the frame, and we shall now observe a slight alteration from the usual method pursued in nailing on the metal strips on which the frames rest while in the hive. Take 2 strips of good stout tin, the length of the hive inside, and each strip being about ⅞ inch in width; now fold each of these throughout their entire length, so as to have three thicknesses of tin, one edge projecting a little. Nail the strips thus prepared into their place in the brood-chamber, leaving a projecting edge for the frames to rest on, of about ⅛ inch.

If the inside length of the brood-chamber is now accurately measured it will be found that the surface of the two metal strips is about ⅛ inch nearer each other than the ends of the hive below; to secure this result was the reason why the metal strips were directed to be folded. Place the double folded side next to the wood when the strips are nailed on. This completes the changes in the hive; now for the *modus operandi* in handling the frames:

If we were to attempt to place our prepared frame in the hive in the manner in which the ordinary frames are introduced, viz., by depressing them in a horizontal position, the nails in the bottom corners would strike the metal strips as soon as they should reach their level, and arrest the further progress of the frame; so, what is to be done in this case? Simply tilt one end of the frame slightly upward, and it will be found that, in this position, the nail projections will clear the strips beautifully; and as soon as this is accomplished, the frame can be restored to the horizontal position, and be depressed into the hive until the nails in the top corners rest upon the metal strips. The reason we are able to resume the horizontal position with our frame is on account of the walls of the hive being further apart below the metal strips than directly between them, as we have before mentioned. When resting in position in the hive, the heads of the nails should come just over the edge of the projecting metal strips, but no more. They rest securely and firmly on the strip, and form a support for the frame, so far as we can see as strong as the extensions of the top-bar in the ordinary forms of frame.

In a future article I shall give what I believe to be the advantages which accrue from using reversible frames. **A. H. DUTTON.**

Brussels, Ontario, June 4, 1884.

I think, friend D., your plan is not altogether new, the same or similar device having been suggested several years ago. The frame, I believe, very much resembles the Hetherington frame when finished, only the device does not space the frames (and this would, perhaps, be an advantage), and they are suspended instead of resting on rabbets at the bottom. One inconvenient feature of this arrangement is, that the rabbet projects inward beyond the level of the end-boards of the hive, and this has always been considered objectionable, because, when the frame is raised up, the bees are rubbed against this rabbet, and any little projection of wax or propolis is sure to knock against the rabbet, and injure any bees that may happen to be coming along. I had once decided that I did not want any rabbet more than flush with the level surface of the end-boards. Another thing, the frames must be made *very* accurate, and the hives also, or these nail-heads would either fail to catch on to the rabbet, or else strike against the end of the hive, and pinch. To make it work properly, but very little variation can be allowed, and I have been afraid to undertake such an arrangement because of the difficulty of making the woodwork sufficiently accurate, and have it stay so. Now, after having made these objections, I will say that your plan fills the bill nearer, perhaps, than any thing heretofore offered, *in my opinion.*

A STRANGE WHIM.

A COLONY THAT KEEPS RAISING YOUNG QUEENS, AND THEN DESTROYS THEM.

SOME three weeks or a little more ago, a very large colony of bees that I was working for extracted honey in a 2½-story hive, swarmed out; the bees circled around for a short time, and began to cluster on a low tree near by; but before the cluster was one-third formed, they began to go back with the hive, and finally all went in. I at once opened the hive, and on the first frame I took out I found the old queen quietly attending to her duties; in fact, she deposited three or four eggs while I held the frame in my hand. On looking further I found two or three partly formed queen-cells, empty, and one which a queen had apparently left very recently. On further examination I found a young queen balled. I closed the hive, and left the colony to arrange matters as it chose. The next morning I found the young queen dead in front of the hive.

After this, nothing unusual occurred till last Saturday, June 28th, when the same colony started to swarm again; but instead of doing so they went through the same performance they did the first time. On opening the hive I found the old queen and several torn-down queen-cells, and on the bottom of the hive was a young queen balled as before. The old queen is only about one year old; her wings are perfect, consequently her not accompanying is not owing to any physical disability. I do not understand why this colony operates as it does, but hazard the conjecture that the old queen is trying to break in an assistant, and the workers are "blocking her little game."

The first time this colony swarmed and returned, I thought nothing of it; but when I found the same state of things precisely, in the second attempt at swarming, I concluded that there was something more than chance; what, I leave others to guess. I have never read or heard of such a thing before; but for all that, it may be a frequent occurrence; I think, however, it is one of those strange vagaries which lead us all to conclude that bees are "funny critters."

J. E. POND, JR.

Foxboro, Mass., June 30, 1884.

Friend P., I do not know that I ever saw any thing exactly like your case, but I have seen something similar. If either one of the queens had been able to go off with the swarms, I presume their plans would have worked all right, and there would have been no hard feelings. I can not tell why the old queen would not go off with them when you had got queen-cells so far along, or a young queen really hatched out.

CANDIED HONEY FROM THE PINE-TREE.

THE AGENCY OF THE APHIDES IN THIS TROUBLE.

WELL, my Northern bee-friends, I learn from the A B C and GLEANINGS that you hardly ever have any candied honey in the comb in the summer time, while half of the crop here is candied, so it can not be extracted. Well, I will tell you how this honey is gotten. The aphides get all over the pines, and there is a large area of them in this country, and every morning you can see drops of it shining like dew; but on examination you will find little hard lumps of sugar that the bees could not gather the day before. If they don't gather it the first day, they can't get it; I mean the first day it is sprayed; it will candy the second day, in the hive or out.

I had my bees arranged for extracted honey, and this candied stuff uses me up; so next year I will run for comb honey. My bees have got every comb filled and capped over. I have built them, too, three stories high. I don't want to cut my combs out, and I have no sections to put in my hives.

BEE-KEEPING IN GEORGIA.

I wish some of my friends from the North would come down here and help me raise bees, and gather the honey of this country. Bees are scarce in this country; what few there are, are in the old box hive. We are behind in bee culture here. There could have been two tons of honey got every three miles square here this season.

I find one difficulty here; that is, when you have a swarm, the bees fill up with honey so quick that the queens have nowhere to lay, and they all get weak. Now tell me what to do with my bees.

Bees winter here on their summer stands, and hardly ever have any loss. Our temperature ranges from 12 to 90°. Bees do nothing from the first of November till the first of February; then go to gathering pollen, and brood-rearing. I don't see but this country is as good for the apiarist as any other. I know that we can raise queens a great deal sooner than you can, when you don't set them out of the cellar till April, and we have swarms here by that time; so, pay us a visit, and see if you don't like it down here.

We have a great many honey-bearing plants and trees. The peach-tree leaves have two little warts at the base that yield a full drop of nectar every morning, and the sweet-elder the same, and the cotton-bloom; there are 100 acres within one mile of me, now just coming in bloom, and acres of asters.

That queen I got from you is of the pure Italian breed, but my blacks are a third larger. I never saw an Italian bee till those came to hand, and these are all that are in this country at present.

J. A. DILLASHAW.

Bowman, Elbert Co., Ga., July 18, 1884.

Friend D., we have had several reports of honey that candied almost immediately in the combs, but we did not know where it came from. It seems to me from your statement that the aphides are at the bottom of this trouble also. I am just beginning to wonder whether we are going to have any reports the rest of the season where aphides did not mix in somewhere.

REPORTS DISCOURAGING.

WHAT ADVICE SHALL WE GIVE FRIEND CHESLEY?

MR. ROOT:—I should like a little advice from you, if you will be kind enough to write me as to what you think I had better do. I am at a loss to know, myself. Last spring I had 18 swarms of bees; bought 15 more, at $7.00 per swarm, and gave a mortgage on the whole, to secure payment on the 15 swarms which I bought, and to get money with which to buy hives, boxes, etc. I am now owing nearly $200 for bees, hives, and sections. I have now 49 swarms, and about 200 lbs. of honey, with but little prospect of making much more, for I find that the basswood, that which we depend on here for surplus honey, is a failure, unless they are to blossom a good deal later than common. Now, what can I do to get out of this perplexing trouble, and pay for my bees, or, rather, have the bees pay for themselves? Can I feed granulated sugar, and make honey from that, or can I divide and fill what hives I have (some 20), and sell them (the bees) off this fall? Will they make good honey, and cap it all right, from sugar?

JEROME CHESLEY.

East Randolph, Vt., July 15, 1884.

Friend C., from what I know of your locality, I should say the prospect was rather slim for getting any more surplus honey this season. If you would bring your bees to the vicinity of some forest where fire-weed or some other fall pasturage abounds, it might fetch you out, but this would be a good deal of expense, and might get you further in debt than you are now. Two hundred pounds of honey from 49 colonies is not a very big yield, it is true. The season must have been very poor with you, or else you have not managed to the best advantage. If your colonies were good in the spring, you have not increased very much. But if I were in debt as you are, I should endeavor to stop increase entirely. In my opinion, you did a bad thing by running in debt for bees as you have done. I do not believe very much in beginners buying bees, any way. It may do very well for an old hand, that is, one who has made money out of bees, to purchase colonies; but even then, as a rule he could build them up cheaper than he could buy them.—You can not feed granulated sugar and make *honey*, Mrs. Cotton to the contrary notwithstanding. You can by this means get beautiful-looking honey, but it will be sugar syrup, and will stamp you as a swindler, if you go into the business.—I would by no means think of dividing at this season of the year, unless it were a few colonies at a time, say one or two, in order to raise queens to sell. If there is a market for queens around home, you might do something during the fall in that way; but if your time is valuable, you would not be likely to pay expenses the first season.—Now, perhaps the advice I shall give you will not be to your liking at all all, but it would be this: Get your 49 colonies in the best wintering trim you know; and after having done this, go to work at something else until another season. If you have not work at home, hire out by the day, and earn money enough to lift that mortgage. Of course, you are to keep a careful watch on the bees; and should they be gathering honey so as to allow you to extract or put on surplus boxes, by all means do it. You can tell when honey is coming in, by having one of your lightest hives on a suitable pair of scales, or by examining partly filled or empty combs put at the outside of hives not yet filled.—Basswood-bloom has been a failure this season, on account of the severe drought. When red clover comes in bloom we may do something, but we do not as a rule get very much surplus after the first of August.

SOME ITEMS OF EXPERIENCE FROM FRIEND J. W. PORTER.

CONTROLLING THE SWARMING IMPULSE, ETC.

EDITOR GLEANINGS:—Mr. Doolittle's article on page 443 is a valuable one. As to uniting bees with the expectation of letting them swarm in so short a time afterward, I should almost doubt its advisability. We do want strong colonies for box honey; and to get them at the right time, so that we shall not have to repeat Mr. Doolittle's expensive bit of experience in having to feed 1500 lbs. of sugar to support life till the honey-flow begins, will be masterly policy. But as seasons vary, we must take some chances. For instance, I was hardly early enough this season to get the advantage of the wealth of locust-bloom, which was something wonderful here this season.

Now, I have been dreading the swarming impulse as destructive to success with box honey, and I have succeeded pretty well in keeping it down. In 1883, starting with 70 colonies, I had only about 5 natural swarms. As a consequence I was able to get as high as 200 lbs. of honey in sections from many of my hives.

By expanding to 10 frames till time to put on honey-racks, and then forcing them right up by contracting to 8 frames of solid brood, and when well in one rack of sections half built out, putting under another, and then a third in the same way, I was able to find room and employment for the most powerful stock I could get. When swarming did occur I would at once remove 4 to 6 of the best sheets of brood, with all the bees, to the new stand, and enough empty combs to make eight in all, and put in all the racks with the bees in them in it, and hive the swarm in it, and it has seemed to affect very little the production, for they go to work with vim.

In no case in three years of management have I had a second swarm, or had one thus hived swarm again; but, one of the conditions is to see that they have room, even if uncapped sections are removed to another hive. I find that, contrary to the teachings of the old masters, that bees *do* sometimes swarm when they have plenty of room.

Swarming can be in a large measure controlled by watchfulness in providing room, and by depleting by taking out sheets of brood till boxes are put on, and then, in case of swarming, I would recommend the above plan. This season I have given it a larger test, for fully one-third of my 75 colonies have cast natural swarms, and it has enabled me to rear some beautiful queens under the best possible conditions, and, at the same time, push box-honey production. By leaving all queen-cells in the old hive, and then using them in the nursery when mature, we have it.

In one case I took 12 fine queens from one colony, some of them off the combs, and others coming out as fast as I could cage them, and I have had no better queens.

One of the disadvantages of natural swarming is the trouble it gives; and another, the liability of loss of swarms and valuable queens; and the latter may come by accident in hiving, for in two instances I have found powerful new swarms queenless a few days after hiving. Of course, their work in boxes could be sustained only by at once adding a laying queen.

The suggestion of Mr. Dupuy, on page 445, will be of help to rear our queens from stocks which show the traits we wish. As an instance of this transmission of qualities, I will give this: Four years ago I had an excellent queen, a pure Italian, sent to me; and her progeny alone, of all my bees, cap the cells directly in the honey. With no air-cell below, the comb is never white.

Now, this plan may be objected to by some; and where the period in which the best comb honey can be made is a long one, I should prefer one division by natural or artificial swarming; but we must have populous colonies, and they must be kept so for the best results in comb honey. What is to be done with the parent colonies left queenless? Double them up, and give them a laying queen and a rack of sections.

Now, then, the advantage of contracting a crowded ten-frame hive to 8 frames, to force the bees right up (and if they hang outside, smoke them in), will be appreciated by those who are troubled to get bees above. Then we have the advantage of the large chamber over a ten-frame hive, which Mr. Heddon has not. J. W. PORTER, 75.

Charlottesville, Va., July 12, 1884.

N. C. MITCHELL.

HIS PRESENT WHEREABOUTS, AND WHAT HE IS DOING.

I NOTICE in GLEANINGS of July 1st, an article from David Lucas, speaking of N. C. Mitchell springing up in another place, after it was supposed he had been dead. Yes, there is a man here located about forty rods from me, in connection with one McLain, with about 125 or 150 colonies of common black bees that they bought up in Missouri, at a cost of about $3.00 per colony, shipped them in here, and put up two separate houses with a capacity of 100 colonies each. They propose to revolutionize bee-keeping, I believe (as they state it), by their new method of bee-keeping. When they commenced operations they said they were going to extract honey as fast as bees gathered it in the flow of honey, and then, when the honey-season was over, by means of their patent feeder would feed back and have bees build comb honey, and by that means get more than four times the amount of honey that could be obtained by other plans now in use.

But I take notice that they have extracted very little up to date, but are putting in brood-frames (in colonies strong enough) for bees to fill with surplus, but have taken but very little section honey yet. I heard Mitchell speak of selling $1.25 worth to one man, and I do not know whether he has sold more or not. They have fixed up a frame for storing surplus honey, but the surplus is minus as yet. When asked why they were not extracting, the answer was that they were afraid the honey-flow would cease, and the bees would then be without stores to keep brood-rearing going on.

Now for one I can not see any thing in their arrangements to warrant any man paying $10.00 for the patent. There is nothing in the hive that is available, that is not in any other good hive that has no patent on it. Brother Root, you said in GLEANINGS of July 1st, that you hoped he had given up his bad ways. Now, I for one would like to know what his reputation in the past has been, as he comes in here a stranger, and I think that there are quite a good number being taken in by the bait that he is throwing out.

The season for honey in this locality is not equal to last year. JOS. BINFORD.

Crawfordsville, Ind., July 15, 1884.

Friend B., we should most heartily rejoice to see friend Mitchell prosper in raising honey, or even in selling bees and queens; but so long as he advertises and keeps the money he receives, without sending any equivalent, we shall feel obliged to keep the public fully posted. The records of his swindles will be found in GLEANINGS for ten years past. Do not under any circumstances pay Mitchell, or anybody else for that matter, any money for individual rights, or any thing of that sort.

MRS. COTTON.

A COMPLAINT FROM ONE OF HER CUSTOMERS.

ACCORDING to previous arrangement I received a swarm of Italian bees from Mrs. L. E. Cotton, Gorham, Me., on the 28th of last May, with instructions how to proceed with them *after ten days*. Before the time had expired I became convinced there was no queen. At the end of the ten days I proceeded according to instructions, and examined the comb for a queen, but found none. I found two queen-cells, one empty, one not. The brood-chamber contains 6 frames; one empty, two filled with foundation, three nearly filled with comb containing some honey, and I think considerably less than two qts. of bees. The 8th day after receiving the bees I wrote to Mrs. Cotton, saying I thought there was no queen. I received no answer until June 26th, postmarked at that date, when she writes, "Carrying in pollen or not is no sign of a queen." About the 25th I wrote again, saying that I had examined the bees again, and could find no queen, and believed the bees considerably reduced in quantity. At this time I requested her to forward a *full* colony of bees, thus fulfilling the first contract as well as *her own advertisement*. I fulfilled my part of the contract by sending Mrs. Cotton *twenty dollars*. She wrote that she thought me *very unreasonable*, but says if there is no queen she will furnish one.

For the money I shall perhaps get a queen, a cheap hive, and a few bees that will probably die before winter. The 5th of July I again examined the hive with a friend, and found in the center comb some brood which I believe to be the result of the efforts of a worker-bee to supply the place of a queen.

I wrote Mrs. C. they were entirely for myself. I have been sick two years with, I fear, an incurable disease; I can not attend to any business; but having a passion for bees I thought to derive some pleasure and perhaps a little profit *this* season, for a sick man at my age (69) can not look forward with any certainty. E. PERRY.

Glenwood, Mass., July 9, 1884.

I am sorry to publish such a letter, and would not do it were it not for the great number of similar complaints from those who have sent Mrs. Cotton *twenty dollars* for a colony of bees. One singular thing about it is, that almost all complain that their colony was queenless; and it would seem that her singular request, to let them alone until after ten days, was, that a queen might hatch out by that time. One would think, that after paying the above price for a colony of bees in the summer time, he should surely have one with a full set of combs full of brood, and about as nice a tested Italian queen as could well be found.

HONEY-DEW, AGAIN.

THIS TIME NOT FROM THE BARK INSECTS.

FOR the last few days I have noticed the bees working very hard for a couple of hours in the morning, although we have a severe drought and no bloom. This morning I noticed they all went in one direction, so I took their line, and followed them. They led me across a large wheat-stubble, and to the edge of a woods, where they would rise to the tops of the trees, where I could hear a big roaring. On entering it I found the underbrush glistening with the honey-dew, with lots of bees licking it up. The trees were soft-maple, so I began to look for the insects, whatever they might be. At first I could not discover any; but after a while I found the white cottony aphides; but on close examination they seemed to be merely the old dry shells, where the insect had spent the last days of its life. I also noticed that the maple-leaves were covered with a warty bunch, or knot-like substance, and I counted over 120 of them on a single leaf. They are about the size of half a grain of wheat; some are fresh and green-looking, and others black and dried up. I send you by this mail, samples of them. On splitting them open and examining with a glass, I find they are more or less inhabited with living insects; some contain only one or two, and others a dozen or more. Perhaps they will yet be fresh enough for you to find them when you get the sample.

After laying them aside I again took up the glass, and began examining the under side of the leaves, and, to my surprise, I find that a leaf that looks smooth and clean to the naked eye, the glass will reveal numerous nits, or eggs on it, and also living, crawling lice. I believe these leaves I send you all contain them; if you look along the veins, or ridges of the leaves, you can find them lying along by the side of the ridges. "There, can't you see them?" I have come to the conclusion that this is the source of our "bug honey."

I also send you a stem with buds and bloom of a bush that grows on low wet ground, that the bees delight in. What is it? A. A. FRADENBURG.

Port Washington, O., July 21, 1884.

Friend F., I have been well satisfied that there were more than one kind of insects at work on the maple. I have sent the maple-leaves, with the excrescences on them, to Prof. Cook, who will tell us more about them. A few days ago, in passing some elm-trees, I heard such a roaring that at first I thought it must be escaping steam, for I thought it was not possible for any body of bees to make such a racket. Still, it sounded very much like bees, and so I investigated. It was bees on the leaves of the elm-trees. There had just been a light shower, enough to wet the leaves just sufficient for them to work, and the bees were literally covering the trees. I examined the foliage, but could find nothing on it except a greenish sort of fly, with long feelers and transparent wings that met at a sharp angle above the back. Our boys say the bees have been gathering enough so that they do not trouble by robbing at all, although we are parched up with one of the worst droughts ever known.—The plant you inclose is the well-known button-ball, figured and described in our text-books. I believe it grows only on marshy or swampy grounds, and therefore would be a little difficult to cultivate for honey. Some writers have estimated that it furnishes more honey in proportion than basswood. It seems we are not yet through with the honey-dew business. See what our next friend writes:

HONEY-DEW FROM RED CLOVER.

There has been no rain to amount to any thing for five weeks, and the bees are not doing much in consequence. We have found bees that can work on red clover, and they are not all Italians or hybrids either. Bees in this neighborhood have made most of their living and some surplus from red clover this year. They would begin work by daylight, and continue until dark, bringing in big loads. But the trouble with it was, it was "bug juice" instead of nectar; for in nearly every field the whole plant, leaves, stems, and all, was covered with little green lice that secreted a clear, thick, gummy dew that looked something like glucose, but was very much sweeter, and of a rather rank, raw taste, not enough to spoil the honey, but enough to give it a real green "clover" taste. It is very thick; so much so that, when cut across the corners, it will hardly run at all, and its clear sparkling appearence is very tempting. G. W. WILLIAMS.

Economy, Ind., July 19, 1884.

WANTED!

A STRAIN OF BEES THAT "DROP" AS THEY COME INTO THEIR HIVES.

HAVE you any bees that "drop"? There is no dropping among mine. They come home gaily, alight nimbly at the entrance, and walk in without a sign of fatigue. They fill up the hive fast enough, but I want to see them make hard work of it, as if they were doing their best. Perhaps I never had as good bees as some. My departed blacks were gentle, but inefficient, and apt to get "millered up." Then I had a batch of queens from a prominent writer and advertiser in GLEANINGS, that gave me the most vicious and spiteful set of reprobates that I ever saw. No more of that sort for me. They were good fighters, but they needed a servile race to feed them, like a chivalrous class of people. Next I got my "Old Squaw," a russet queen that gave me a kind and useful strain of bees. Some of her progeny I regard with a degree of actual affection, but they don't drop.

The season has been very good here. There were some heavy losses in wintering, but the spring opened well—no dwindling, and no spell of scarcity. The flow of honey still continues satisfactory. No big report will you see from me, however. The basswood is about two miles away, and my bees are a kind that don't "drop." How can I induce them to load a little heavier? JOEL H. BARBER.

Lancaster, Wis., July 21, 1884.

Friend B., I am sorry to say that *we* haven't any bees that "drop" just now. We have not had any rain of any account for six weeks or more, and we have almost forgotten how they look when they "drop" all around the entrances, and then puff awhile until they get breath enough to go in on foot. But they did "drop" during the apple and locust bloom, and also when white clover was out. They commenced it a very little when basswood first opened, but now they swing in "gaily and nimbly," just as yours did. May be you have not had a right good yield of honey. It needs so much nectar in the flowers, that a bee can load up so it is pretty hard work to fly; then when he comes near his hive he will swing around on a curve, and finally sort o' tumble near the entrance. May be you are inclined to smile a little about this dropping business, but I think there are plenty of our readers who have seen it exactly as I have described it.

HOW I WINTER MY BEES.

HOW FRIEND POND WINTERED THE COLONY THAT STORED 72 LBS. OF HONEY FROM APPLE-BLOOM.

HAVING received several communications from the readers of GLEANINGS, inquiring for the system of management that enabled me to get 72 pounds of honey from a single colony from apple-bloom, I know of no better way of answering than through these columns, as by that means one answer will serve for all. I will premise by saying that my system is neither new nor in many respects original. I use the Simplicity-Langstroth frame and hive; winter on summer stands, and have done so for many years, without losing a single colony wintered on the L. frames.

For my answer I will give the system or method I used with the colony I got 72 lbs. of honey from, as it was the method adopted with all.

Last September the frosts killed the goldenrod, and consequently I began my winter preparations sooner than usual, as I ordinarily wait till after goldenrod has bloomed. About the middle of last September I removed three frames from the hive (a common ten-frame Simplicity), replacing them with chaff division-boards. I then began feeding dilute sugar syrup, to keep the queen laying as late as possible. By the middle of October I had so arranged, by use of the extractor, that the upper half of each of the seven frames was filled with sealed stores throughout their whole length. As soon as the weather became cold enough to force the bees into a cluster I changed the frames so that this cluster occupied the right-hand side of the brood-chamber. I then put on a Hill device, covered the bees in well with a thin blanket of woolen felting, such as is used for drying in paper-mills; any light porous blanket will answer the purpose equally well.

After covering them in so that not a single bee could get above the blanket, I put on an upper story, and filled it with forest-leaves (dry, of course), pressed lightly down. I used a cover with a 1½-inch hole bored in each end. The entrance I left open, about 8 inches in width. Nothing was done to this hive during the winter, which, by the way, was unusually severe. About the first of March I looked the bees over a little, found them lively, and apparently doing well.

About the middle of March, on a warm pleasant day I opened the hive, found the bees in good shape, the combs clean, and partly filled with brood in all stages, and quite a number of young bees in the hive also. As there was still plenty of stores, I removed one of the division-boards, replacing it with a thinner one, and inserted a frame of empty comb. In four or five days this was filled with eggs, and I removed the other thick division-board, replacing it with a thin one, and inserted another frame of empty comb. I then fed a small quantity of syrup every day until fruit-bloom. I kept the bees covered in warm all the time, but did not remove the Hill device till about April 1.

When fruit-bloom began to show itself on my apple-trees I removed the blankets, etc., put on a zinc honey-board over the frames, put ten frames of nice comb into the upper story, and covered them well with blankets. It was on Saturday that I put in the empty frames. Sunday was pleasant; but Monday, Tuesday, and Wednesday, it rained and snowed all the time. Thursday morning was ushered in by a bright beautiful sun, and it continued pleasant and warm the remainder of the week. On the following Saturday afternoon I extracted 72 lbs. of as nice, clear, and beautiful honey as I ever saw, and at the same time removed two frames of brood from the lower story, replacing them with frames of fdn.

The queen presiding over this colony was reared by J. B. Mason, Mechanic Falls, Me., and is a pure and purely mated Italian.

The method above given is my usual plan of winter preparation and management; and I have no fears or dread of any ordinary winter. Others might not succeed by following in my footsteps. It proves a safe bridge, however, for me to travel over, and I shall continue traveling over it until it breaks down; and then, even, I shall look some time for a cause before I lay it wholly to the bridge itself. I believe that success in wintering can be gained only by keeping as nearly as possible an even temperature, whether it be zero or 40 degrees above, and by allowing excess of moisture to pass out from the hive. If thorough and complete ventilation can be gained by using the entrance alone, then perhaps it may be safe to hermetically seal the hives at the top; but the difficulties to be overcome in that direction are so great, and the temperature so changeable, that I am of the opinion that it is far safer to allow just such ventilation as I use. Others may differ from my practice and my theories. To all such I say, the facts are enough for me.

Foxboro, Mass., July, 1884. J. E. POND, JR.

I do not know that I would have any thing to add to the above, unless it were that I should treat them in the same way, only using a chaff instead of an ordinary hive made of inch boards, as I presume the above was.

HEADS OF GRAIN
FROM DIFFERENT FIELDS.

BLACK BEES ON RED CLOVER.

I HAVE seen so much said in GLEANINGS about bees working on red clover, it has caused me to notice something about it; so a day or so since I was in a lot of red clover, and I noticed quite a number of black bees on that clover. They seemed to be very busy at work, just the same as they do on white clover, so you may put it down that my bees, which are black, work on red clover. I have now 80 colonies at work; one of those colonies seems to suffer a heap of drones among them. Just now I wish I had some of your drone-traps.

HONEY-DEW ON THE HICKORY AND WHITE-OAK.

Well, in regard to honey-dew there has been an immense quantity of it here. Woods have been strewn with it; but it seemed to be confined principally to the white oak and hickory. In early spring it was on peach-trees. The frequent showers of the last few days have washed it off from the leaves somewhat. Bees are quite rich in this section.

DELAYS IN GETTING GOODS.

I got the boxes after a long time, that I ordered of you in April. I sent to the depot several times: was told that there was nothing for me, so at last I went myself and found them, and informed the agent that I wanted them. He said very quickly, "Oh, yes! *they have been here for some time.*"

C. WATSON.

Yanceyville, Caswell Co., N. C., June 30, 1884.

Friend W., your concluding item reminds me of one of the sad weaknesses of humanity. There is an old adage about going yourself for any thing, instead of sending somebody; and it is a fact, that there is only a small portion of humanity who are capable of doing an errand thoroughly; and especially do errands at express and freight offices turn out vexatiously. The one who does the errand does not understand, or perhaps does not care very much; and when he meets an agent after the same fashion, trouble ensues as a matter of course. I presume it is the half-heartedness of the world that is at the bottom of a great deal of it. Here in our own factory, over and over I am told certain goods are out; but I have so often found it a mistake, that I feel sure I can furnish the required article, even before I look, and I almost always find it.

REPORT FROM IOWA.

At this date we have fair prospects of a good honey-harvest. This year has been the best, all things considered, that we have ever known, for colonies to be self-sustaining. We have had a moderate flow ever since the first maple-leaves began to form honey-dew, or aphides honey, first; and then clover, and now basswood, which is giving a good fair yield, far in excess of white clover, which was very short, on account of the dry rainless weather. We put our first honey on the market this spring the first of June. We have the greater part of our honey commissioned by the grocerymen of our neighboring towns. We make a combination stand for them to retail from, holding both comb and extracted honey. The stand has two shelves; the lower one is glassed in front; the glass slips in from the top between two saw-cuts, making it easy to remove for cleaning, etc. On the back is a hinged door that drops down from the top, and is fastened in place by two buttons. It holds four sections long and two high and four thick. The top shelf holds two rows of Mason's quart jars, and on top of them are two rows of pound tumblers, which, all together, makes a very fair display of honey. We are trying a few thousand sections made of veneering. They are all in one piece, and nailed. They seem to answer all purposes for home market, but would not, we think, do for shipment, especially long distances.

VIRGIN QUEENS WITH IMPERFECT WINGS.

Have you ever had much trouble with virgin queens with imperfect wings? We are troubled very much that way this spring, as well as one of our neighboring bee-keepers. Our bees are mostly hybrids, but we can't see but that they make as much honey and increase as the full-blood Italians. Our only objection is their crossness. We are at present realizing 12½ cts. for extracted and 20 cts. for comb in one-pound sections. Comb honey takes the preference. C. D. & L. V. LEVERING.

Wiota, Iowa, July 17, 1884.

Yes, friend L., there is always more or less trouble with the queens with imperfect wings, although we have had but comparatively few this season. One advantage in using the lamp nursery is, that no hive is ever troubled with a queeen with bad wings, for such are never allowed to go into the hive at all; whereas if hatched in the natural way they may leave the colony dwindling along for weeks before the trouble is discovered. Thanks for your description of your retail case.

REPORT FROM A YOUNG BEE-KEEPER.

We have 50 hives of bees; did not lose any last winter in the cellar; they have just begun to swarm; have had five come out; one went back again after they were hived. What do you suppose was the matter with them? We got 2000 lbs. honey last year, in comb, and sold it at 12½ cts. They are making honey from white clover now. Why is it, that when one goes out in the apiary, or anywhere near it, there are some bees always on hand to chase you? It seems as though there were a few bees that did nothing but watch for you, and begin to buzz and thump your hat as soon as you appear.

Mitchellville, Iowa. G. S. FOX.

Yes, my friend, I have often thought that there were just about so many mean, meddlesome sneaks around almost every apiary, that did nothing but fly around and pester a body. These bees are always ready to steal; and when we used to keep grape sugar out under the maple-trees, it seemed to have the effect of calling these bees out of the way, for they would rather sit there and steal a poor quality of sugar than to go into the fields and work for nice honey, as the others did.

HONEY FROM THE OAK.

The season has been very unfavorable for bees in this locality; they have not stored a pound of surplus honey yet. The white sumac has gone and left the hives nearly empty; but the last week I found they were getting honey somewhere, and it puzzled me to find what they got it from; but finally I discovered the source. They are gathering it from the young acorns. I gathered some specimens to send to you, but find the honey soon dries up; so by the time it would reach you there would be nothing.

S. B. HOLDEN.

Joplin, Jasper Co., Mo., July 2, 1884.

You will notice, friend H., by our back volumes, that this matter has come up a great many times. Sometimes it seems as though it were the work of insects, on the principle of some that we find on the honey-dew; but at other times it seems to be the natural secretion while the acorn is forming.

THE DIFFERENCE.

Well, my friend, we are having rain, rain, rain, until the chances for future support are gloomy indeed. The farmers are lost in the grass, and the rivers are as full as they have been this past winter, and are still rising. Nearly every farmer you meet, has that indomitable long face. It has been raining about three days in the week since the first of the year.

The bees are still dying for something to eat. Although the fruit-bloom has come and gone, still there is nothing for them but pollen. I have fed away as much sugar as they are worth, and have still to keep it up or let them go dead. If these rains extended over the whole country, our hopes would not only be "discouraging," but certainly "blasted." But we know God reigns; and He who cares for the sparrow will surely extend us his helping hand. Our faith is well founded.

Snyder, Ark., May 26, 1884. R. A. BETHUNE.

Friend B., it seems a little funny to read a letter like the above, while every thing here is being parched up by the fierce drought, and we are studying books on irrigation, and meditating on the comparative expense of wind-mills compared with other arrangements for elevating water and sprinkling plants on the honey-farm. It seems to me I could get along with too much wet rather than no wet at all; but may be I would think differently after I had had a trial of it. There is one thing certain, however: we shall be able to appreciate rain when it comes, just as you have learned to appreciate sunshine. Truly God reigns, and he knows better than we do what is best for us. I have been trying to learn to thank him for dry weather.

ALLEY'S DRONE AND QUEEN TRAP; AN IMPROVEMENT SUGGESTED.

This trap needs improvement; it does not work very well with my bees, as it hinders them too much, and it can not be regulated, as it is made at present. On an old swarm it is better to have a Jones zinc. It will keep a queen. She is soon in the upper part of the trap, which has then a small zinc hole. Now, why not make them with a sliding front zinc, the same as on the top of the trap, and give two front zincs to each trap — one with large and one with small holes? The large one will keep a laying queen in, and the workers can pass out and in without hindrance. The small one is too small for my bees to work with satisfaction; but those who like the small holes can use that piece of zinc, or we can use them to keep virgin queens in. It is best to have the entrance open for the bees to work freely. Now, if we use a trap only to keep swarms in when we are not at home, or when we go to church, we can slide the zinc forward; and when we want a free and open entrance, we can slide the zinc back. This takes but little time. Such a trap is very useful, and we must regulate them according to circumstances, and they must be made so it will take but little time to do it.

Friend Alley is a good queen-breeder, and he has made a good start in drone and queen traps.

H. M. MOYER.

Hill Church, Berks Co., Pa., July 14, 1884.

THE TRANSLATION OF HUBER.

I am having Huber's works translated, and I find in the first chapter that he used frame hives. Here is his description of his hive and frame:

"I procured several small frames of fir a foot square and 15 lines (1¼ inches) in width; I joined them all together by hinges, in such a way that they could be opened and shut at will, like the leaves of a book, and I covered the two outside frames with squares of glass, which represented the covers of the book. When we wished to employ hives of this form we took care to fix a comb of cells in the place of each of our frames. We then introduced the whole number of bees which we needed for each particular experiment; then by opening in succession the different frames, we inspected several times every day each comb on both sides. There was not, therefore, in these hives a single cell in which we could not follow at any time what was going on. I could almost say that there was not a single bee which we did not know individually."

Duarte, Cal., July 7, 1884. W. W. BLISS.

We were well aware, friend B., that Huber used such a hive as is described in the above; but, if I am correct, it could hardly be called a *movable*-frame hive, after all. — I am glad to hear that you are having a translation of Huber made; but I presume you know it is a pretty expensive business to get it into print.

IS IT SAFE TO GO INTO THE BEE BUSINESS?

I am an A B C bee-keeper. I transferred a swarm in the spring, just before the frost that killed fruit-blossoms. Bees nearly starved to death. They did not have half a pound of honey in the hive when I discovered that they were destitute. I fed them through a perforated tin under an inverted glass. Now for the result (I have a Simplicity hive). I put boxes on June 12, and up to date have taken 52 lbs. nice clover honey. A large swarm came off July 9, which are working nicely. How is that for first handling of bees? I am inclined to follow the business more extensively. Do you think the times and markets will warrant one in raising bees and honey as a business? Do the chances to lose outnumber the chances to make — I mean in the matter of winter-killing and the like? I enjoy caring for my bees, and can do any thing with them, and they seem to take it in good part. A. B. SCOFIELD.

Olean, N. Y., July 12, 1884.

I should say, friend S., it would be a safe thing for you to go ahead. I do not mean, to buy a lot of bees, but just go ahead with what you have now got. Increase and build up. They who take up the business out of a love for it, and go into it heart and soul, and at the same time have a determination to make the bees pay as they go along, as Doolittle did, can hardly make a failure; but those who take it up with the expectation of making money, and push ahead without judgment or a keen watching over the debits and credits, will very likely fail. It is like almost all other rural industries.

HORSEMINT, POISON OAK, ETC.

Horsemint grows here from one to four feet high, and my bees seldom notice it. They are mostly blacks. Did you ever know bees to work on poison-oak blossoms? It grows here by the thousands, and my bees work on it in great numbers. You say young queens never lay in drone-comb. I have had several young queens from 5 to 6 weeks old lay in drone-comb, right straight along. They do this in Simplicity hives too. Colonies with young queens build drone-comb right along. G. W. BEARD.

Milano, Texas, June 28, 1884.

So it seems, friend B., that even horsemint does not always yield honey.—We have had a good many reports of honey from the oak, but I do not know that I ever heard before the *poison* oak mentioned.—I do not think I said young queens *never* lay in drone-comb, did I? At any rate, I should have said, they *seldom* lay in drone-comb, and their colonies seldom build drone-comb; and I believe this rule holds true, does it not?

REPORT FROM WESTERN NEW YORK.

Judging from present appearances, the bee-keepers of Western New York will harvest the shortest crop of honey that has been taken in this locality for the past ten years. Since July 1st we have had cold weather, so that the flowers did not secrete honey; and even if the yield had been good, the weather has been too cold for bees to fly. For the past five or six days, basswood has been yielding a very little honey in the forenoon, and to-day the yield has been better all day, so that we have some hopes of a small surplus yet. At the present writing our bees are strong, but have not one ounce of honey in boxes. G. W. STANLEY & BRO.

Wyoming, N. Y., July 21, 1884.

TOO MANY DRONES.

Do drones ever become so numerous as to injure the progress of the colony? I have two old colonies that sent out three swarms each, and then filled the frames in the upper story of the hive with comb, but do not fill it with honey. They seem to work hard, but there is about a pint of drones in these hives. The bees run them out every evening, and they pile up at the entrance, and go back at night. If at any time the upper story is opened, an unusual number of drones make their appearance.

Moody, Tex., June 22, 1884. R. F. CLARK.

Yes, sir. Where the matter is not attended to, a great many hives have so many drones that they eat up the honey as fast as the bees can gather it; and one great reason why we get so much more honey by the modern system of management is because we repress the production of drones by comb fdn.

THE PERFORATED ZINC, AGAIN.

Jones bee-guard is received. It is a grand success—for the drones too, as it lets them through as well as the workers. Haven't you got them with a smaller mesh? It is of no earthly use. L. B. LILLY.

Sabetha, Kansas, July 18, 1884.

The above is the first report of *drones* getting through, and it looks now as if drones varied in size, as well as workers. Yes, friend L., we have got zinc with a smaller perforation, but you will notice by our back numbers that a good many complain that this doesn't let the workers through. We can furnish drone-guards made of zinc having the smaller perforations, just as well; and although there is but a hair's breadth difference in the width of the perforations, it looks as if we should need a size just between the two.

ANTS, SULPHUR, CHICKEN CHOLERA, ETC.

Tell Mr. Brooks to sprinkle flour of sulphur where the ants are troublesome; that will drive them away. If you have any doubt about it, try it yourself. Now I have given you a cure for ants, I hope some one will give a cure for chicken cholera, if there is any cure for it. GEORGE FAUSNIGHT.

Middle Branch, Ohio, July 18, 1884.

No doubt, friend F., the sulphur will answer in your house, or with your ants; but I confess, the number of remedies brought forward begins to make me a little skeptical.—Some time ago the juveniles took up the subject of chicken cholera; but there were so many remedies, and many notions (if you will excuse me for saying so) that I began to think the remedies were mostly guesses. The whole matter seems to be in some respects like the remedies for bee-stings. The trouble rights itself, usually, sooner or later, any way; and when the remedy is tried it gets the credit, whether it had any effect in the matter or not.

A GOOD REPORT FROM THE BLUE RIDGE.

I wish to give you a partial report of this season's work in my apiary of 45 colonies of bees. Up to date I have extracted four barrels of honey; two of the barrels hold 45 gallons apiece; have taken several hundred pounds of comb honey.

SOURWOOD HONEY.

My bees are now bringing in the sourwood honey, which is the most delicious honey to be found in this or any other country. I wish some live bee-keeper would move into the old Tarheel State—I mean North Carolina, with about 100 stands of Italians, and let them gather that snow-white sourwood honey. There is a scope of country along the base of the Blue Ridge that I understand is lined with sourwood, and the coves in the mountains with linn and poplar. JOHN FARIS.

Town House, Va., July 18, 1884.

GETTING SURPLUS HONEY FROM QUEENLESS COLONIES.

Last year we bought of you one tested queen and two of your dollar queens, all three Italians. We were well satisfied with them. The dollar queens were both pure, and far surpassed their royal tested sister. Of the former, one is quite superior—so much so that I am raising queens only from her. For this purpose I removed her in due time to a separate hive, performing the transfer toward nightfall, that the uneasiness among her loyal subjects, incident on her departure, might be relieved by sweet slumber. The bereaved colony, therefore, after the hours of repose, did not deem it necessary to indulge in much mourning; being very strong and business like, moreover, as American-born folks are apt to be, they began queen-cells immediately, are as active as may be desired, and bring in surplus honey as rapidly as any of their neighbors. Although queenless, they are not without brood in all stages, as I keep them constantly replenished with eggs. After the removal of the queen, I feared, lest, in their haste to replace her, they might build cells on hatched larvæ, but no such thing happened; on examination I found all the cells were built on eggs, and capped over on the same day. I am now looking forward to the 15th of July, when I shall be able to cut them all out, and place them in their respective hives just in time to be hatched. I always keep my bees very busy; whenever there is any cleaning or mending of frames to be done, the job is set apart for late evening, or, again, for a rainy day, not to lose any of the precious moments God allows them to bring in the honey. A Bee-Friend from Canada.

Quebec, July 10, 1884.

My friend, your test is not quite a fair one. If you kept the colony supplied with unsealed brood they were almost equivalent to a colony with a queen. There is a difference in this respect, for most Italians will go on gathering honey for some time after the queen is taken away, while a colony of blacks or even hybrids would almost stop business at the loss of their queen. While I have known a few colonies that would store honey rapidly after their queen was taken away, it has with me been the exception rather than the rule.

ADVANTAGE OF TIMELY FEEDING.

I commenced in the spring of 1883 with 8 stands; increased to 23 by natural swarming; one went to parts unknown. All the fore part of the season was wet and cold, so they did not do much good. I got 100 lbs. extracted and 30 lbs. comb; the latter part of the season was so dry that buckwheat did no good. Had it not been for a flow of honey from a little pod on black-oak and black-jack, I should have lost all my bees, as I was sick in the fall, and my better half had not time to attend to them alone.

HOW I WINTERED.

I doubled up six of the weakest, giving one colony all the honey of both. I went into winter quarters with 22 stands; I put nine in a root-house, made in a south hill-side; 13 I wintered on summer stands. I came out this spring with the loss of five. Three were very weak. I do not see any difference in those I wintered outdoors. The ones in the root-house, I commenced to feed sugar syrup with a little honey mixed, as soon as it was warm enough for them to fly. By so doing I have got the most of them built up strong, and they are booming on white and alsike clover. I have had four swarms up to date; have extracted over 100 lbs. honey from the strongest colonies. I am not quite through; think I can go through them again next week. Nearly all the bees died last winter; and had I not fed mine every warm day, I should have lost most of them. It has been so wet and cold all spring, bees have not done as well as they ought to.

Now, Brother Root, may the good Lord bless you and yours. I consider Our Homes worth five times the cost, if I had never seen a bee.

Charles L. Gough.

Rock Spring, Mo., June 2, 1884.

WINTERING WITH THE SPACES BETWEEN THE FRAMES CLOSED.

I have noticed the bees in their own natural plan of wintering, where they fasten their comb to the top and sides of their home, and have thought, in fact have proved, that the ⅜ in. we give around combs is fraught with winter danger. A few openings that the bees can close with their bodies at leisure are useful in allowing them to change their position according to their honey stock; but further than this, all openings around the combs are objectionable, on account of the too free circulation of air, which extracts heat from them. My plan is to have the frames built full by reversing, and, at the approach of winter, turn the frames up endwise, most honey up, and place division-boards close against them, and chaff cushions all around and over them. As I use a frame that is reversible in every shape, this is easily done. W. M. Egan.

Salt Lake City, Utah.

I have often thought of what you say, friend E., and in some respects you may be right. I have tried wintering a strong colony with no protection over them except what they received by filling the space between the combs with their own bodies. The colony died from exposure—at least, I think they did. With abundant ventilation below, perhaps it would do to have the upper part of the hive a solid box with the combs attached to it. I have just been wondering whether a small cheap wooden bowl would not be about as good as the Hill device, or better, providing there were plenty of lower ventilation.

HONEY THAT CANDIES IN THE COMBS.

About a week ago I saw in front of one of my hives on the alighting-board and on the ground, what I supposed to be granulated sugar. On inquiry, no one had used sugar near the hives. On opening the hive I found some comb nearly filled with the sugar. In cutting out a piece the sugar would fall out in lumps the size and shape of a cell. On making further search I found this sugar in most of the hives. Can you explain it? What can be done with it? No one here knows. A. Lower.

Griffin, Ga., July 19, 1884.

Friend L., I can give no explanation, more than to say we have a report from some locality or other almost every year, of this kind of honey. I suppose the solid substance is a sort of grape sugar formed by nature, and it contracts in solidifying, so as to loosen it enough to drop out of the cells. It seems to injure the sale of comb honey whenever it is found. No one has ever yet decided what plant it is that bees gather it from, so far as I know.

FRIEND POND'S OPINION OF THE DIFFERENT HONEY-KNIVES.

The Bingham knife was received all right, and proves to be just the thing. I have two Novice honey-knives, but they are rather slender for uncapping—at least, I find them so; but for general purposes otherwise they are just the thing. I got one of your 10-cent trowels, but the steel in that did not prove first rate, and it did not grind well, so I gave it up. I have used the Bingham, and nothing could work better. Joseph E. Pond, Jr.

Foxboro, Mass., June 30, 1884.

Very likely the cheap trowels are not very finely tempered, for the price is too low. Many of the friends, however, find them to answer a very good purpose; and if they should be discarded as a honey-knife, they are worth the cost to use in the garden.

ITALIANS AND RED CLOVER.

I have heard the assertion made, that Italian bees could not or would not work on red clover. I should like to have all unbelievers here to-day, or any other day, to witness my yellow pets gathering honey from the red cups. I have a patch of four acres in white and red clover mixed, and the bees seem to be just as busy gathering from the red as they are from the white.

In our market we get from 20 to 25 cts. per lb. for comb honey and don't get enough to supply the demand. Is it any wonder that an old man like me should begin to stick up his ears and care for bees? I always loved the bees; and even when a little boy, 45 years ago, I did not like to see father smother them to get their honey. To be sure, I liked the honey. M. FICKEL.

Holton, Kansas, June 25, 1884.

MORE ABOUT KEEPING AWAY ANTS.

I would say, for the benefit of friend J. M. Brooks, page 457, in particular, and the bee-fraternity in general, that, in putting common salt around honey-boxes and sugar-barrels, I have never been troubled with ants. Salt, when exposed to the air, is generally damp, and they will not crawl over it. I have put boxes filled with comb honey on the floor, and put salt around them, and have never found an ant on the combs; and I find by experience that chalk marks around jars and boxes will generally keep them out. They do not like to crawl over chalk any better than they do salt. These may not be infallible, but I have always experienced the best results from them.

HONEY FROM RED CLOVER, AGAIN.

Bees have had quite a boom on red clover here this season. In the same field where white and red clover are mixed, the most of the Italians left the white and were found on the red clover. I saw no black bees on the red, but plenty on the white. A friend slung about 18 or 20 lbs. of the red-clover honey out, which tastes sweeter and pleasanter than the white-clover honey. We know it was the red-clover honey, because he had slung the honey out just at the beginning of the boom, and threw it out the third or fourth day in the height of the boom.

Ripley, O., July 8, 1884. G. W. FORMAN.

Is it not a fact, friends, that there are different kinds of ants, and that, while some will stop at a pinch of salt or a chalk mark, there are others that have no regard for such hindrances?

HARVESTING BUCKWHEAT; WHO CAN TELL US THE BEST WAY TO DO IT?

Please give in GLEANINGS the best method of harvesting and thrashing buckwheat.

Spring Station, Ky., July 17, 1884. L. G. LUCAS.

Friend L., I have had but comparatively little experience in this matter. However, I will tell you what I know about it, and doubtless some of those who raise buckwheat largely will correct me where I am wrong, and add what I omit. We cut the buckwheat with a reaper, and after it has lain a little while, so as to cure partly, we twist it up into a little cock, say about enough for a good forkful. To prevent it being scattered around, it is wisped together so as to stand wind or rain. When it is dry enough to thrash out nicely we draw it directly to the machine. As it is great stuff to collect dampness and mold, it ought never to be stacked or stored away on mows. After the seed is thrashed, be careful or it will mold. Have it spread out on the floor where it can be raked over occasionally until thoroughly dry; and even then, unless it is watched it is liable to collect dampness. It may be well to say, that now is about the time to sow buckwheat in many localities. In 1882 we got a fine crop, sowed the 15th of August; but the frost injured the seed somewhat. The last of July or first of August is perhaps the better time.

WHERE DID THE HONEY COME FROM?

I wrote you a few days ago, asking if you could tell me from what probable source my bees were gathering honey. This morning early I noticed them carrying pollen, and they were carrying some bright red pollen, some light yellow, and some dull green, while many of them had no pollen at all. Can you tell from the pollen, from what source they were gathering honey? C. W. COSTELLO.

Waterboro, York Co., Me., July 12, 1884.

I confess, friend C., it is rather a conundrum. If the pollen were all of one uniform color, we might try to decide; but from what you say, it looks as if they got honey from about four different sources. Perhaps every thing is just right for the secretion of honey, and therefore bees find honey on almost every thing, as is sometimes the case.

DO BEES VARY IN SIZE, AGAIN?

In your reply to J. W. Martin, of Greenwood, Va., in your Notes and Queries, in July GLEANINGS, you say that bees are larger where fdn. is used, than those built naturally. I do not understand how that can be, as fdn. is 5 cells to an inch (except yours), whereas my bees (and I suppose all bees are alike in cell-making) will make 14 cells to 3 inches, if they make perfect cells. Now, wouldn't the fdn. tend to diminish the size of the bees, instead of enlarging them? I buy my fdn. of you because you have cells a little larger, 14½ to 3 inches. What is the reason that the fdn. is not made just right? Is it because they draw it into drone-cells? My bees made some that I bought of you, into drone-cells.

J. L. HYDE.

Pomfret Landing, Conn., July 11, 1884.

Friend H., this is an old subject that has been gone over pretty thoroughly. If we make fdn. with the cells too small—that is, too closely together, the bees become bothered, as it were, and occasionally make a false cell, in order to give the requisite room. Our first experiments were with cells 4½ to the inch, and these did very well generally, but sometimes they would be converted into drone-comb, and a lot of drones were raised. Then we tried exactly five to the inch; and after a great many reports it was decided a little too small; and as the size of cells we make now seems to be just about the thing, we have thought it best to let well enough alone. There are several mills now in use that make 4½ to the inch, and we have a few people who say they prefer them. We have sometimes thought the bees from this fdn. were a little larger, but finally decided that cells a little large made no difference with the size of the bees, although cells a little too *small* do certainly produce small bees.

PERFORATED ZINC HONEY-BOARDS.

My Italian bees work nicely through the zinc honey-boards. The queen has never passed into the second stories. I would not be without the zinc boards for any thing. Place a frame of brood in the center of the upper story if the bees are backward about working there.

INTRODUCING GOOD QUEENS TO SMALL NUCLEI.

I have lost two prolific queens by removing them from full colonies to two-frame nuclei. They became disgusted, and "walked out," leaving the little colonies to "paddle their own canoes." Put them in with four to six frames, and I think they would remain. W. E. H. Searcy.

Griffin, Ga., July 16, 1884.

Friend S., I am sorry you did not tell us the size of perforated zinc you use — probably, however, the large perforations. — I know it is not good policy to introduce very prolific queens to small nuclei, for they will get the combs filled with eggs, and then leave the hive, as you say. I once had a large beautiful yellow queen reared in a small nucleus, but she would not lay an egg. After waiting several weeks I thought that I would, before destroying her, try her in a full colony. She commenced laying at once, and proved to be a good queen.

TOO MANY BEES.

I wish to put a case to you, on which, if you have opportunity, you may give me your opinion. I have now 73 stocks. I am in a poor country for bee forage, and, if I started next season with, say, 30 or 40 stocks, that is about as large a number as in an ordinary season could be handled profitably. I can not find sale for my surplus stocks. You say it is barbarous to brimstone them. What else can I do with them? J. K. Edwards.

Anacostia, D. C., July 24, 1884.

Friend E., it seems to me you can certainly find sale for the bees at some price, either in your immediate neighborhood or by advertising. If you have made a success of bee culture there must surely be more or less who are thinking of taking up the business, and who would like to get a colony or two for a start. I think I should advertise in the local papers. If you are prepared to furnish text-books on bee culture for the benefit of those who want to learn, this will pave the way. It seems to me there can hardly be a place in our land where bees can not be sold to better advantage than to destroy them. Perhaps some of our readers who see this notice will be willing to take them off your hands.

TAKING THE LITTLE BEES FOR AN EXAMPLE.

My bees are in the old-fashioned hives, 4 boards nailed together, and sticks across, but they are working finely, and filling up very fast. If they live over winter I am going to get the Simplicity hive, and transfer them. I am taking quite an interest in bees, and love to sit and watch the little fellows come in so heavily laden, and often think if we worked as hard for our heavenly Master as they work, how much better would this world be. If my bees do not live over, I am going to send to you in the spring and get a start, as I am bound to have bees. Geo. W. Legg.

Latham, Ohio, July 16, 1884.

TWO SWARMS IN ONE DAY FROM THE SAME COLONY.

In the spring I had 4 colonies of bees; now I have 8, besides one I sold, and I have taken about 130 lbs. of honey. I had one colony that sent out a first swarm in the morning; they settled, and I hived them, and that evening they sent another swarm; but I soon found that the first swarm had no queen. I gave them a queen-cell containing a young queen, and they went right to work.

Michael U. Harbold.

Underwood, Ind., July 23, 1884.

Friend H., there are two very singular things in the above. One is, that a swarm should go out without a queen; and the other is, that they should send out two swarms in one day. I presume likely you hived the swarm with a frame of brood, and this caused them to stay, and very likely you hived them so quickly that they did not have a chance to go back as they would have done when they discovered the old queen was not with them. I am inclined to think, however, that a large part of them did go back, and these made enough to try it again, and this last time they succeeded in taking the old queen along with them.

QUEENS CROSSING THE OCEAN BY MAIL; MORE SUCCESS.

In your reply to one of your correspondents in the issue for July 15, you asked if any others have received queens from Frank Benton, Germany, by mail, in good order. I also have received one by mail in as good condition, apparently, as those from Ohio or Michigan. She was mailed at Munich, July 2d, arrived here July 17. There were 6 bees dead and 15 alive, besides the queen, all fine and lively; the sugar candy about half consumed. The remaining candy in one side of the cage was in good condition. The cage was all wood, and no provision for water. C. L. Brooks.

Deansville, N. Y., July 21, 1884.

QUEENS ACROSS THE OCEAN, AGAIN.

In Gleanings of the 15th, I see F. W. Burgess received a queen from Benton by mail. You ask, "Has any one else been equally successful?" I have the pleasure to so report. I received in one cage two queens that were shipped July 2, arriving here on the 17th as lively as crickets, not a dead bee. Another one came on the morning of the 19th, postmarked Munich, Ger., July 7. This one had two dead bees only. The cages are very simple in construction, and the most remarkable part of it was, not a *drop of water* in their cages, showing conclusively that water is not necessary in shipping queens, provided the candy is in proper condition.

Coatesville, Pa., July 25, 1884. Geo. H. Reess.

Friend R., I am greatly rejoiced to hear of your success. If you will mail me one of those cages I will have an engraving made of it. It is certainly a matter for which we may well be thankful, that it is now fully demonstrated there is no need of water in a cage, even for long distances. If they go across the ocean they will go anywhere else. It seems to me we might almost give three cheers for the success of this thing we have been so long anxious about.

BASSWOOD A FAILURE.

Bees were doing finely here before the first of July; but about that time the drought began to take effect, drying up the white clover, and, when basswood-blossoms opened, the atmospheric conditions were as follows: Nights very cool; high wind from the north and north-east during the day. What would you think of the honey prospects, with your bees employing the greater part of their time in killing off drones, and trying to rob, right in the midst of basswood-bloom? S. P. YODER.

East Lewistown, O., July 21, 1884.

WHAT SHALL WE PLANT FOR HONEY?

What plants are the best honey-producers, which the best pollen? Do corn-tassels contain any honey? Does any blossom contain both pollen and honey?

Eddyville, Iowa, July 24, 1884. F. W. SCHAFER.

See Remindery in this number.—Sweet corn seems to produce about as much pollen as any plant we know of, and we are planting some now for that very purpose. If the frost holds off, we shall probably get some roasting-ears. If it does not, we shall have pollen for the bees, and fodder for the stock. —Most plants that yield honey also yield pollen.

THE USE OF SLANG WORDS.

I like your article on "slang" in your issue of July 15. While none more thoroughly detest the use of slang and questionable language than myself, there is no good in being "too utterly utter." Many apt quotations become slangy when used too frequently, or wrongly applied. "As a man thinketh in his heart, so is he," and I conceive that purity of language depends as much upon the listener as upon the speaker. All language should be pure, and would be, were it not used to express impure thoughts. Sporting men and women, many of whom pride themselves on the use of choice language, are continually prostituting the very purest; but are we all to be presumed to be up or down with their times, when such may adopt *our* modes of expression? I trust not. J. H. W.

Malvern, Ia., July, 1884.

HOW TO GET BEES OUT OF THE BOXES.

Probably the following plan will meet the wants of W. D. Ganse, on page 477 of GLEANINGS. The plan usually practised by bee-men in this section, who use nothing but boxes, holding 18 or 20 lbs. of honey, on top of the gum or box hive, with 2 or 3 (usually) inch holes for bee entrances through top of hive into the box, is to take off these boxes when filled and carry them into a dark room and set them in there, letting them remain until the bees voluntarily come out and go back to the hive, which, it appears, they always do during the day, if there is a small light-hole to some part of the room through which they can pass out. Generally, our box-hive bee-keepers know nothing of bee-smokers.

BEE-KEEPING ON THE OLD PLAN.

There is a bee-keeper (a lady and her son) in Pander Co., N. C., who has 300 stands of black bees, in black gum and cypress gum hives—sections of the hollow of these trees cleared out and head put on. They usually brimstone from 50 to 125 gums each year, and squeeze out the honey by hand, for which they get from 60 c. to $1.00 a gallon. This family has kept bees for the last 15 years in this manner, at the same place; they are immediately on the edge of Cape Fear River swamp, 20 miles N.W. of Wilmington, N. C. A. L. SWINSON.

Goldsboro, N, C., July 26, 1884.

REPORTS ENCOURAGING.

AN ENCOURAGING REPORT FROM CALIFORNIA.

OUR apiary of 100 swarms has been increased to 170; doubled up the new swarms till the hives were full of bees, consequently we are getting some honey. They have extracted over 3000 lbs., and expect as much more at least. It is just lovely honey. It is very white, and tastes like white sugar.

Kind wishes to you and family, and a kiss for that blessed baby, right on his juicy little mouth. God bless the babies! KATIE HILTON.

Los Alamos, Cal., July, 1884.

THE HORSEMINT OF TEXAS FOR 1884.

We have the finest crop of horsemint I ever saw before. Our bees are booming. I have put on the third box on some of my stands.

Arlington, Texas, June 30, 1884. J. P. ROSE.

Bees are booming. We have not had such a season since this branch of industry was developed in this section of the country. I have about 200 stands of bees, and have taken 8000 lbs. of the finest honey I ever saw. F. R. CRIST.

Lompoc, Cal., June 12, 1884.

1450 LBS. EXTRACTED AND 105 LBS. COMB HOENY, FROM — COLONIES.

It has been a good season for honey this year. I have taken 1450 lbs. extracted, and 105 lbs. comb, all white, since the 13th of last month, and still it comes. I will give full report when season closes. One swarm has given 100 lbs. C. W. PHELPS.

Tioga Center, N. Y., July 23, 1884.

And *you* don't tell us how many swarms you had either.

AN ENCOURAGING REPORT FROM A SMALL BEE-KEEPER.

I send you my report for this summer: I commenced with 3 stands—one of Italians and 2 blacks. There was not more than 1 lb. of them all together. Now I have 5 strong stands, all Italians. I raised queens myself, except one that a friend gave me. The honey-flow was cut short here by the dry weather. There were the greatest honey-dews here that have been known for years. I am going to build my bees up, and have them strong for another season. F. P. SMITH.

Greenwood, W. Va., July 24, 1884.

REPORT GOOD AND BAD.

Bees are doing very well so far this season. I had eight strong swarms in the fall; lost four of them; all had plenty of honey, so they were not starved to death. I fed those that pulled through, and have been amply repaid for the trouble. First swarm came out on the 3d of June, and on the 30th they had built 8 frames of brood and 30 lbs. of beautiful white-clover honey in the upper story. Two others are doing equally well. Report now stands just like this: 8—4—11, and one swarm went off to make a call somewhere, and forgot to come back.

GEORGE R. HUMBERSTONE.

East Toledo, Ohio.

CHEAP HONEY IN CALIFORNIA.

We have plenty of honey, but small demand, and offers of only from 4 to 6 cts. per lb. The cans and cases and hired help take money down so we are short just now. We had 100 swarms, spring count,

170 now, and 6 tons of honey as the season's work. We shall be apt to have a little more of inferior honey, but that is not counted generally. To show what two men can do, I must tell you of the amount Mr. Hilton and the hired man did the 17th of May. They commenced extracting at 1.30 P. M., and extracted 850 lbs., and quit at 6.30 P. M. I think that was lively work; 650 is the usual afternoon's work.
Los Alamos, Cal., July 1, 1884. MRS. HILTON.

430 LBS. PER COLONY FOR TEXAS.

I have at present 430 lbs. of honey per colony, with 1000 or 1200 more ready to come. I have extracted from supers only. My lower stories are too much crowded with honey and pollen for the usual midsummer breeding, but I shall leave them as they are, as I am satisfied with my yield, and shall very likely get a ton or two more, anyhow. I will, if you wish, give a full report at the close of the season. I am only an amateur. C. A. WHEELER.
Selma, Texas, July 13, 1884.

Why, friend W., this is truly wonderful; but you have neglected to tell us how many colonies you have. If you have only three or four, and they are extra good ones, it is not so extraordinary; but if you have an apiary of forty or fifty, it is one of the best reports ever made. Why not always give your number, as friend C. C. Miller has so vehemently requested?

NOTES AND QUERIES.

FUN AND HARD WORK BOTH TOGETHER.

I AM in just the condition that friend Hutchinson, of the Banner Apiary, is, only a little more so, as I have no hurt brother for company; but it is lots of fun, even if I do have to get up at 3 o'clock in the morning, and work until nine at night, without any nooning; but it will be over in ten or fifteen days, and then we can have time to look around and figure the results.
Sodus, Mich., July 9, 1884. WM. L. KING.

Poor season *here* for honey. Dry weather; only about 1000 lbs. from 33; increase 34. I extracted, the latter part of June, 200 lbs. of the genuine honey-dew honey—dark, but very thick and good.
Creighton, O., July 17, 1884. A. H. DUFF.

REMEDY FOR ANTS.

Five cents' worth of tartar-emetic in a sauce-plate wet with sweetened water, put in their way, and left for the summer. W. P. IRISH.
Norton Center, O., July 14, 1884.

ONE PECK INSTEAD OF THREE PECKS OF BUCKWHEAT TO THE ACRE.

I have ten acres of buckwheat or more sown with ten pecks of seed, which I think will beat your allowance of three pecks to the acre for buckwheat or honey, if the frost don't get it too soon.
Glidden, Iowa, July 20, 1884. DAVID EPPERT.

BEES IN CHINA.

Last January I saw in Singapore, upon a tree in the hotel yard, a large colony of bees. They had no hive nor covering; had been there several months. Like the other natives, they did very little work. They were high up on a large limb, and no comb was to be seen. I was reminded that necessity is the mother of industry. H. D. STILES.
Vineland, N. J., July 12, 1884.

ANTS, ONCE MORE.

I see that J. M. Brooks wants to know how to get rid of the little pests, red ants. Please tell him to scatter tansy around on the floor and shelves of his honey-room quite freely. I think this will give him satisfaction. So far it gave us good satisfaction in the cellar and cupboards when infested with the little pests. I have not been troubled at all in my honey-room so far. A. F. YODER.
Goshen, Ind., July 23, 1884.

BEE-STINGS AND ANTS.

I think Mrs. Hayhurst gets it about right, when she says cold water in preference to whisky for bee-stings. The only thing I do is to have a pan of cold water ready when I go amongst the bees; and if any chance to sting me, I just put cold water on, and the pain is gone immediately. If Mr. E. D. Howell will strew tansy around the floor of his honey-room it will rid out the ants, or around the bee-hives either. GEO. W. PUTNAM.
Holland, Iowa, July 7, 1884.

PLENTY OF WORK AT GOOD WAGES.

I am very busy making bee-hives, and transferring for my neighbors. I made $9.75 in three days, making hives and transferring. F. P. SMITH.
Greenwood, W. Va., May 19, 1884.

[Friend S., when you become expert in the business, so you can do a job of transferring quickly and nicely, and keep in stock good accurate hives to receive the transferred bees, you will find you will always have plenty of work to do, and good pay.]

ABOUT THE EXTRACTED HONEY THAT WOULDN'T SELL.

As for the honey, I have none. I sold all I had, and could have sold as much more of just that kind of honey here at home; and when I got my extractor I was told that I could not sell extracted honey here—that they would not buy it; but I carried a sample up town to show; and as quick as they saw it they all wanted some of it. I sold out at 20 cents per lb. We had only about three weeks of a good flow of honey, and that was the last of May and the first of June. Bees are doing well.
E. CRUDGINGTON.
Breckenridge, Texas, July 24, 1884.

BORAX FOR ANTS.

If Mr. Brooks will scatter borax on his honey-table, I think it will keep the ants away. While in the tropics the ants were a great pest, and I found it the best remedy, either in lumps or pulverized. The pans of water in which he puts the legs of the table will have to be removed often, as they will not prevent ants getting on it. A. A. T.
Lewistown, Pa., July 15, 1884.

[You will notice, friend T., that the same thing is given in the A B C book. Where they get into houses and around tables, however, we have not found it to work so well, for the borax needs to be wet by the rain to make it offensive to them.]

HOW MANY FRAMES ARE NEEDED FOR BROOD AND FOR WINTER STORES?

In using the Simplicity hives with seven brood-frames and two wide ones for sections, how do you manage about these last ones! Are seven brood-frames enough to rear brood and store honey for winter, and do you leave the wide frames in the whole year? GUSTAVE GROSS.
Greenville, Ill., June 17, 1884.

[Friend G., I think seven frames are a great plenty, both for brood, and, after the honey-season is past, to contain winter stores; in fact, I would much rather have them in seven frames than in a greater number. When we are working for comb honey, the space of the other three frames is occupied by two wide frames holding sections—one in each side. In the winter time a chaff division-board takes the place of these two wide frames. The wide frames with sections are never left in the hives when the bees are not gathering honey, because both sections and combs would become dark and unsightly.]

REMINDERY.

In a great many localities the honey season is about over, and perhaps many of the friends have had experience in robbing. Look out for it. If you do any more dividing, work carefully, keep the entrances small, and division-boards up to one side of the brood.

BUCKWHEAT.

It is a good time now to sow buckwheat. Although many farmers have a prejudice against making the ground rich, my experience has been that it pays to prepare it as well as for any other crop. It grows quickly, and must have a large amount of food. Neighbor H. suggests that clay soils will bear manuring and phosphate, perhaps better than a sandy soil. It is pretty generally a safe investment, for the grain is worth all expenses, even if you don't get a crop of honey.

SEVEN-TOP TURNIP.

It will do now, also, to sow seven-top turnip; but unless you have good deep rich soil, it will be labor thrown away. As it is so liable to be thrown out by the roots in winter, an underdrained soil is better. Of course, a sandy subsoil will be pretty much the same thing. The only drawback in sowing it so early in our locality is the black flea. It is a great pest with us, especially during dry seasons. Of course, the seven-top turnip does not give any bloom until next spring. Besides the honey it yields, it is excellent for greens if its growth is rank; and if you do not care for the seed, you can turn it under after blossoming, and it puts the ground in excellent condition for corn or other crops.

SUMMER OR WINTER RAPE.

Both of these ordinarily pay for seed, even if we care nothing for the honey; therefore they are a pretty safe investment. Rape will blossom yet this fall, if sown now or even later. The winter rape is so much like the seven-top turnip, that I am at present unable to point out the difference.

ALSIKE AND WHITE CLOVER

May also be sown now, but they are usually sown in the spring, I believe; in fact, I should be glad of reports from fall sowing.

SWEET CLOVER.

This can also be sown in the fall; and if it gets a good start it will make a heavy bloom next season.

As sweet clover is raised for honey, and nothing else, I am still a little backward about advising sowing it, unless it should be a small patch, for experiment.

BORAGE.

Borage may be sown so as to produce bloom this fall; but as it furnishes nothing of any value except honey, I would not recommend much of it. Of course, the seed is worth something, although there is but little demand for it. As it is quite difficult to gather, the seed is worth about 75 cents per pound.

QUEEN-REARING IN THE FALL AND SUMMER MONTHS.

Where bee-keepers get no more honey, quite a little income may be obtained from queen-rearing, providing you have a market for them. Where one has acquired a reputation for promptness, and for nice queens, he usually has as many orders as he can fill, clear up until we have freezing weather. Our two apiaries (our own and one belonging to Neighbor H.), comprising now about 700 colonies, are crowded to their utmost capacity to supply daily orders for queens. To see our boys take queens out of the lamp nursery, and introduce them at once as fast as they can walk around to the hives, would make one smile who has heard about the difficulty of introducing queens just hatched. During this warm summer weather they have another kind of nursery which they call the "hatcher," for short. It is simply a piece of plank about an inch and a half thick, and the size of the brood-nest, bored as full of 1½-inch holes as can be. One side is covered with wire cloth, and it is then set over a very powerful colony in a chaff hive; then the enameled sheet, and lastly a chaff cushion. No food is furnished for the young queens, for we expect to be around to take them out as fast as they hatch. These queens are just picked up with the fingers, and set down by the entrance of a queenless hive, and the loss in introducing this way is much less than inserting queen-cells by any plan we have ever tried; and instead of a queen-cell we have a live queen.

Now, at the risk of having some of the friends think I am advertising here, I want to say that queens reared in so large an apiary as ours, where they are all Italians, stand a much better chance of being purely fertilized. During the spring we were compelled to buy queens heavily, most of them coming from friends in the South; and when these were received, any surplus, we introduced to our own queen-rearing colonies. But I am sorry to say, that a very much larger proportion of them turned out hybrids than those of our own raising; for the fact is, we have not at present a black nor hybrid queen in either apiary, and have not had for some time; therefore our queens can not very well be other than purely fertilized. About the only advantage in tested queens from our apiary now is, that they are tested for disposition, while we know nothing about what the temper of untested queens will be. So far as honey-gathering is concerned, we do not have very much opportunity to test the queen in this respect, for we hardly ever keep them long enough.

GLEANINGS IN BEE CULTURE.
Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, AUG. 1, 1884.

Wash me, and I shall be whiter than snow.—Ps. 51 : 7.

WE will pay 10 cents each for GLEANINGS of April 15, 1884.

HORSEMINT SEED.

WE have now on hand a large stock of good fresh seed at 20 cents per ounce, or $2.00 per lb., postage added. If you want only a "pinch" to try it, the price will be 5 cents for 5 cents' worth.

WAX seems to be taking its usual tumble after the honey season is over, and until further notice we can pay only 30 cts. cash or 32 cts. trade. If anybody wants to buy, we can furnish any quantity at 35 cts., which latter price is just what we paid for it.

REDUCTION ON THE PRICE OF SEED BUCKWHEAT.

UNTIL further notice we will furnish common buckwheat for $1.25 per bushel; silverhull, $1.50, and common gray, $1.50. Prices for less than a bushel will be as per price list.

WE have on our table a revised and enlarged edition of the book called "Bees and Honey," by the editor of the *American Bee-Journal*. Friend Newman treats the subject in a general way, not confining his remarks to any particular hive or any particular system of management. The book is very nicely gotten up, and is full of pictures. Price, in cloth, $1.00; in paper, 75 cts. We can furnish it at the above prices.

THE HONEY-DEW TROUBLES; REDUCTION IN THE PRICE OF HONEY.

THIS has proven a pretty bad thing for most localities, yet we have succeeded in making some purchases of some very nice honey, at a price so low that we can now not only sell a nice article for 10 cts. per lb., retail, but for a 58-lb. package—the contents of a 5-gallon iron-jacket can—we can make the price 9 cts.; and as the cans are now reduced to 58 cts., the whole package, can and honey, will amount to only $5.80. We have it all ready to ship by the first train, and in these cans it will go safely either by express or freight. We have both white clover, and basswood and white clover mixed, and the quality is equal to any thing we ever sold.

A ONE-QUART HONEY-PAIL WITH RAISED COVER, FOR ONLY FIVE CENTS.

WE have succeeded in getting a very pretty tin pail, with a neat nicely fitting cover, so that we can sell a single one for 5 cents. We might sell 10 of them for 48 cts.; but if anybody should buy 10, we should have to furnish a box to put them in, and that would take off the small margin of profit, so we shall have to say one pail, 5 cts.; 10 pails, 50 cts.; and 100 pails for $4.75. Please do not order less than 100 pails, friends, for they come all boxed up, 100 in a box, and we do not make profit enough on them to pay for opening a box and dividing the package. We can send you a sample by mail, if you wish, for 8 cts. extra for postage. It may get smashed, it is true; but you can see what it is like, even if it does. The regular 3-lb. Jones labels will fit these pails very nicely.

TELL US JUST WHAT YOU WANT.

MANY have been the sad complaints during the past few weeks, from those who got something that they did not want; and one great trouble is, that our friends did not tell us what they wanted, until *after* the goods had been received. As an illustration: A customer returned a box of 20 lbs. of fdn., because it was not the size he thought he ordered. His boy wrote the letter, and simply said, "Our frames are 13x9½." The order came in the latter part of May, and the fdn. was wanted at once. We sent exactly the kind needed for frames of the above dimensions, leaving the margins at the sides and ends as stated in our price list. Now our friend says he wanted *foundation* 13x9½. It seems to me a little hard that we should bear the blame under the circumstances; yet if I were to wait and write back to every one of you who make an order, for further particulars, I fear I should be blamed worse than I am now, for I have tried it a few times. Now, then, please do not write to us the size of your frames or the size of your hives, but tell us exactly the size you want your fdn., or your sections or your frames made. Do not leave us to do the figuring nor the calculating, for we shall have to be more than human to hit it every time while people have such different ways of thinking and expressing themselves.

ALSIKE AND RED CLOVER, AND THE WONDERFUL VITALITY OF THE SEED.

ONE of our neighbors has just been in, and in making the remark that he considered alsike clover ahead of red for any purpose for which clover is used, gave me the following circumstance: Several years ago he had a nice field of alsike, which was cut twice for hay at the proper time. The next year it was plowed under, and corn planted on the ground. After the corn he raised a crop of oats, then sowed the piece to wheat, and seeded it down to timothy. This spring, to his astonishment, he had a beautiful field of alsike along with the timothy, the seed having lain dormant in the soil for three or four years. This reminds me of a circumstance recently brought up. One of our customers purchased of us some alsike. We purchased the seed at the time of the great scarcity, and paid about $14.00 per bushel for it, and the seed seemed to be nice and clean. Our customer sowed it; but when it came up, about half of the field was almost all red clover. He wrote to us complaining, saying he thought that we must, by mistake, have put two kinds of seed in the bag. Now, we could not have put in red clover, because at the time we sold the alsike we had never had any red on our premises. Where, then, did his red clover come from? I can not, of course, be positive; but it seems to me that perhaps red clover had been sown on this ground years before; and in preparing the ground for alsike, the circumstances were for the first time favorable to the germination of the old clover seed. Something like this happens quite frequently in preparing ground, although I do not remember to have ever seen a *part* of a field produce red clover in just this way.

For the first time in the life of Gleanings we have got up to 7000 and a little over, for we are now just 7131.

CORRECTION.

In the advertisement of friend J. H. Reed, Orleans, Ind., which appears on the cover, please read "Ten per cent discount on *five* or more," instead of *fifty*.

DECLINE IN THE PRICE OF SECTIONS.

Until further notice we will fill orders for sections as well as for fdn. at a discount of 10 per cent from list prices, and we can give you nice goods, almost by first train. Lots of the boys and girls are wanting work just now, you see. Will it not be a good idea to have your odd sizes made up *now*, so as to be sure to be ready when next season comes?

HORSEMINT HONEY NOT BAD, AFTER ALL.

Mrs. Maggie Goodrich, Massie, Hill Co., Texas, sends us a sample of horsemint honey, of a beautiful bright amber color, and of a flavor so fine that all the family, even down to baby Huber, smacked their lips over it and wanted more. If our friends have much more of it like the above, we might almost give three cheers for the quality as well as quantity of the horsemint honey of Texas.

RAISED-COVER HONEY-PAILS.

Aside from the low rates given on 1-quart pails, we can now furnish pint pails, put up in boxes of 100 each, for an even $4.00; 2-quart pails for $6.50; 3-quart pails, $10.00, and 4-quart pails for $12.50. As these are new prices, and a good deal lower than any thing we have ever advertised, please refer to this editorial when you make an order. At present we can not give the above rates unless a whole hundred is ordered. They are made by a new process, and almost entirely by machinery. If any of these new pails leak, I have never yet seen or heard of one; and, in fact, the plan on which they are made makes it next to impossible. It is the same pail we have been selling so largely in nests at 40 cts. per nest of five different sizes; namely ½, 1, 2, 3, and 4 quarts. We will try to give you an engraving in our next issue.

CONVENTION NOTICES.

The next regular convention of the Hamilton and Tipton Co. Bee-Keepers' Association will be held at Ekin, Tipton Co., Ind., on Thursday, Aug. 7, 1884. John Fritz.

The Southern Illinois Bee-Keepers' Association will meet at DuQuoin, Ill., in the Opera House, at 1 P. M., August 14, 1884. All bee-keepers are cordially invited. Merwin Stone, Sec.

The Tri-State Fair of Ohio, Michigan, and Indiana, will be held at Toledo, Sept. 8 to 13 inclusive. Among the premiums we note the following: Best display of comb honey in marketable shape, $25.00; best of extracted, crop of 1884, $25.00; best display of comb honey by a lady, $10.00; best colony of bees, $5.00. Equally liberal premiums are offered on all the implements usually used in bee culture. The managers of the Fair seem to be fully awake to the already important position that apiculture now holds in our country, and seem to be doing all they can to promote its still further growth. Special low rates of fare are offered by the countless lines of railroad centering in that city.

KIND WORDS FROM OUR CUSTOMERS.

Gleanings is the best advertising medium I know of. Have had more orders than I could fill.
Wentworth, N. H., July 18, 1884. S. F. Reed.

I got the foundation machine all right, and it works like a charm. I can beat any sample of fdn. you ever sent me. H. F. Bargar.
Border Plains, Ia., July, 1884.

Every thing was perfectly satisfactory. We enjoyed the maple sugar very much, and the baby thought the little pail so cute. Katie Hilton.
Los Alamos, Cal., July, 1884.

The balloon came and went up all right and delighted all of us. Please accept my thanks for your kindness in sending it. Gracie Aspinwall.
Harrison, Minn., July 23, 1884.

THE WATERBURY WATCHES.

Inclosed find $10.00. Please send me three Waterbury watches; they are praised by everybody who has seen mine. Chas. Gutekunst.
Bayou Chene, La., June 20, 1884.

Well, let me say to you, friend Root, that it is a pleasure to deal with such a man as you are. Every thing I ever sent to you for came up all right, and you have my best wishes and respects in all of your undertakings. E. Crudginton.
Breckenridge, Texas, July 24, 1884.

A POUND OF BEES IN MAY.

The pound of bees I had of you the last of May are now a prosperous colony, and are storing in the boxes. In point of numbers they are fully double what a colony of blacks is which I bought in Feb. for $10.00. I am very much pleased with them.

My bees are gathering honey faster now than at any other time this year, and I can not find out where they are getting it. The white and red clovers are in bloom, but not a bee is to be seen on them, although they worked almost exclusively on white clover 10 days ago. C. W. Costellow.
Waterborough, Maine, July 8, 1884.

HOW TO MAKE SLAP-JACKS COME OUT EVEN.

The queen I got from you is a fine one, and she is laying. I have taken brood from her, and placed in a queenless colony to get queen-cells. She came to me a laying queen. What will the queens be that I get from those cells—Italians or hybrids? Last year was my first experience in bee culture, and I am just beginning to find out how green I am; but Gleanings and the A B C help me in every thing but one. They don't tell a fellow how to make nice comb honey (which I have) and slap jacks come out even at breakfast.

I have 10 stocks, and I have had but little increase this season. Now is it too late for me to build up stocks with the queens I rear this late?

A German friend of mine wants a bee-book, but can't read English. Is the A B C published in German? D. F. Lewis.
DeForest, Ind., July 24, 1884.

[Come to think of it, friend L., I do not think that I know of any way.—In regard to the German bee-book, we are talking about having it translated into German; but as it is being constantly printed and almost constantly revised, we should have to go to the expense of German type and another printing-press, for what I see. Will it not be best for our German brother to learn to read English yet awhile?]

The goods ordered of you came safely to hand, and, after unpacking and admiring the taste and neatness with which they were put up, my husband turned to me and said, "Now, I want you to write Mr. Root a letter of thanks, for it is such a satisfaction to deal with such a man." And I want to say right here, friends, you who have had dealings with Mr. Root, that have not been entirely satisfactory to yourselves, that have caused you to write hasty, unkind things to him, just think if, perhaps, the fault, after all, hasn't been with yourselves—

some little omission in ordering—saying one thing when you meant another, has probably caused a delay in your goods, and, of course, inconvenienced you some, no doubt; but was it kind, was it polite, to write words in the heat of passion, you would be ashamed to use, and probably retract, in your calmer moments? A kind, Christian letter to him will set all your troubles right, even though he be a loser by so doing. Be patient, be kind, be charitable, and half the wrongs of life will right themselves.

MRS. M. A. GARDNER.
Sears, Mich., July 23, 1884.

LOOK HERE!

Having the following goods on hand, I now offer them for sale: 14 colonies bees (hybrids), 8 in Root's chaff hives, and 6 in Simplicity hives; also 6 Root's chaff hives, well painted (new this season) with 10 L. frames to each hive, one Novice honey-extractor, used one season, one Jones wax-extractor, one Bingham & Hetherington uncapping-knife, new, and 2 two-story Simplicity hives complete. Goods delivered at depot free of charge. I will take for the lot $120. Satisfaction guaranteed. Bargain closed after Sept. 1, 1884. Remit by American Express Co. to Pleasant Valley, Dutchess Co., N. Y., or draft on New York. W. C. LESTER,
15d. Washington Hollow, Dutchess Co., N. Y.

NEW LANGSTROTH OR HEDDON HIVE,

Two cases, filled with 56 white poplar dovetailed sections, $2.50. White poplar dovetailed sections, 7 or 8 to foot, per m., $6.50. Comb fdn. for brood-chamber, per lb., 50c.; light, 60.

J. J. HURLBERT,
LYNDON, - - - ILLINOIS.
15-tfdb.

IF YOU WANT A NICE
LIGHT-COLORED QUEEN,
SEND $1.00 AND SEE WHAT A HANDSOME ONE YOU WILL GET BY RETURN MAIL, OR $5.00 FOR SIX.
Good as Any Raised Under the Swarming Impulse.
W. J. ELLISON, STATEBURG, SUMTER CO., S. C.
15d

UNPARALLELED OFFER. Warranted Italian queens only $1.00. Address S. F. REED, North Dorchester, N. H.

IMPROVED SMOKERS
WITH HANDLE, $1.
J. L. HYDE, POMFRET LANDING, WINDHAM CO., CT.
15-17-19-21-23d

BEE-KEEPERS' SUPPLIES

MANUFACTURERS OF
ONE-PIECE SECTIONS,
Made from Basswood.
HIVES OF ALL KINDS,
FOUNDATION, SMOKERS, ETC.
Send for Price List.
DERR & HARRIS, Whiteside Co., **STERLING, ILL.**
15-20db

ITALIAN AND HOLY - LAND QUEENS.

Fine Queens of Either Race, Bred from the Best Imported Stock.
NUCLEI OR FULL COLONIES.
Address W. B. COGGESHALL, Supt.,
15-16-17d Hill Side Apiary, Summit, Union Co., N. J.

PRICES REDUCED.

DURING AUGUST I WILL SELL
UNTESTED ITALIAN QUEENS
At 80 Cts. Each; 6 for $4.50.
A lot of fine queens on hand ready to ship. Send in
15d your orders. Address
J. P. MOORE, Morgan, Pendleton Co., Ky.

DURING AUGUST **$2** AND SEPTEMBER
I will furnish pure tested
CYPRIAN QUEENS
For $2.00, Absolutely Pure. Address
B. F. CARROLL, - Dresden, Navarro Co., - TEXAS.
[Safe arrival and satisfaction guaranteed.] 15tfdb

Red-Clover Queens.

One dollar will buy an Italian queen whose progeny will gather honey from red clover; 126 lbs. of red-clover honey taken from one colony.
Address *F. BOOMHOWER,*
15d *Gallupville, Schoharie Co., N. Y.*

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

Is now making a specialty of rearing fine Italian queens. All queens bred from the purest and best of mothers, and the cells built in full colonies. Single queen, $1.00; six queens $5.00; twelve or more 75 cts. each. Tested queens $1.50 each. Make money orders payable at Flint, Mich. 15-tfdb.

RAISED-COVER HONEY-PAILS.

WE HAVE JUST SECURED

Some better rates than any thing we have ever had before on raised-cover honey-pails in nests. Nest A is composed of five pails—1 pint, 1, 2, 3, and 4 qts. This nest, at regular prices, would be 5, 8, 10, 15, and 20 cts., making altogether 58 cts.; but we can sell the whole nest for 40 cts.; 10 nests $3.75, and 100 nests for only $35.00.

Nest B contains 8 sizes — 1, 1½, 3, 4, 6, 8, 10, and 12 quarts. The prices of these singly are 5, 8, 10, 15, 20, 25, 35, and 50 cts., making $1.68, but we can sell them in nests, single nest for $1.50; 10 nests, $14.00; 100 nests, $135.00.

A. I. ROOT, - MEDINA, OHIO.

FDN. MILLS. 10 INCH $15.00
W. C. PELHAM,
MAYSVILLE, KY.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

OHIO WESLEYAN UNIVERSITY, DELAWARE, OHIO.

791 students last year. Open to both sexes. In scholarship, low expenses, and commanding influence, among the first colleges east or west. Ladies under special supervision in an elegant home. **Conservatory of Music, Art Department. Academic, Normal and Business Courses;** besides the regular College Course. Necessary annual expenses under $100. For catalogue, address **C. H. PAYNE, President.**

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

1884. For Sale. 1884.

Pure Italian Queens and Bees

FIVE-FRAME (Langstroth Frame) COLONIES

A specialty. Five bright new combs, wired in, covered with young bees, filled with brood and stores with a pure young fertile Italian queen. My queens are carefully bred from best imported and homebred stock. Bees gentle, industrious, and beautiful; better than a natural swarm. I was awarded first premium at St. Louis Fair last fall over quite a number of worthy competitors for best Italian queens and bees. Send for circular and price list.

WILLIAM LITTLE,
5-7-9-11-13-15d **Marissa, St. Clair Co., Ills.**

SAFE INTRODUCTION GUARANTEED BY use of Safe Cage. In July and after, price of untested Italian queen $1.10, or without guarantee, but in Safe Cage, $1.00. See June advertisement. Circulars free.

S. A. DYKE,
13tfdb. Pomeroy, Ohio.

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any late number of GLEANINGS previous to May 15. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the, and, that, ing, tion,* etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb. A. I. ROOT, Medina, Ohio.

A NEW BOOK FOR BEE-KEEPERS.

— DICTIONARY OF —

PRACTICAL APICULTURE,

By John Phin.

Price 50 cents; Postage paid. Specimen pages free. Send for our catalogue of books for Wood-workers.

INDUSTRIAL PUBLICATION CO., 294 BROADWAY, NEW YORK.
13-15d.

BEE-KEEPERS' SUPPLIES.

It will pay to get our prices before purchasing supplies; good Langstroth hives, with 8-in. cap frames, in the flat, 60 cts. each; Langstroth winter-protector, in lots of 50, $1.50 each; small lots, $1.75, all in the flat. Manufactured of good pine lumber. Workmanship unexcelled. Crates, Sections, and Foundation.

WM. O. BURK, 8tfd
Successor to Hiram Roop. Crystal, Mont. Co., Mich.

The Bee-Keepers' Guide;

Or, MANUAL OF THE APIARY.

11,000 SOLD SINCE 1876.

12TH THOUSAND JUST OUT!

10TH THOUSAND SOLD IN JUST FOUR MONTHS!

2000 SOLD THE PAST YEAR.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs. 10-18b

A. J. COOK, Author and Publisher,
State Agricultural College, Lansing, Mich.

WHEAT.

I have 250 bushels of Fultz; 75 bu. old Mediterranean, and 240 bu. Gipsy wheat to let the bee friends have for seed. I averaged 25 bu. per acre; do not claim to have an extra kind of wheat, but know it is a good plan to change seed wheat from one place to another. I will sell it for $1.00 per bu., delivered on cars here. Would exchange 10 bu. of the Fultz for 10 of the same, each of us to pay freight on his own. All of my wheat will average 62 lbs. to the bu.
15d JACOB DICKMAN, Defiance, O.

WIRE CLOTH FOR BEE-KEEPERS,

AT GREATLY REDUCED PRICES.

By taking a very large stock of wire cloth from the factory, we have been enabled to give the following greatly reduced prices:

DARK-BLUE WIRE CLOTH, ESPECIALLY FOR QUEEN-CAGES.

This has 12 meshes to the inch, and is considered better for queen-cages than any other shade, because the eye detects bees and queens inside quicker. We have it in three different widths—24, 30, and 36 in.; price is 3c. per sq. ft.; 28c. for 10 sq. ft., or $2.50 for a roll containing 100 sq. ft.

WIRE CLOTH PAINTED GREEN.

We never have had any objection to this kind of wire cloth, except that bees are not as readily seen through it as in the other. We have it in rolls 24, 26, 28, and 30 inches wide, for 2¼c. per sq. ft. *in whole rolls.*

1 roll, 24 in. wide, containing - - - - 180 sq. ft.
25 rolls, 26 " " " - - - - - 215 "
4 " 28 " " " - - - - 210 "
1 roll, 30 " " " - - - - - 225 "

JOB LOT OF GREEN WIRE CLOTH.

Any of the pieces mentioned below will be sold @ 1½c. per sq. ft., providing a whole piece is taken. We have in stock, whole pieces as follows:—

1 roll, 23 in. wide, containing 100 sq. ft.
2 " 24 " " " 80, and 200 sq. ft. respectively.
4 rolls, 25 in. wide, containing respectively, 40, 97, 120, and 250 sq. ft.
8 rolls, 26 in. wide, containing each, 35, 55, 65, 160, 180, 200, 200, and 250 sq. ft.
1 roll 27 in. wide, containing 170 sq. ft.
11 " 28 " " " respectively 62, 75, 90, 90, 160, 200, 240, 240, 240, 250, and 275 sq. ft.
8 rolls. 30 in. wide, containing respectively, 80, 90, 100, 115, 150, 200, 200, 265 sq. ft.
2 rolls, 31 in. wide, containing respectively, 35 and 190 sq. ft.
2 rolls, 32 in. wide, containing respectively, 110, and 130 sq. ft.
1 roll 34 in. wide, containing 150 sq. ft.
2 " 36 " " " respectively, 120 and 135 sq. ft.
1 roll 37 in. wide, containing 135 sq. ft.
1 " 40 " " " 135 "

A. I. ROOT, - - MEDINA, O.

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KIND WORDS FROM OUR CUSTOMERS.

A KIND WORD FROM ONE OF THE SISTERS.

My bees are doing well. I had 17 in the spring, and now I have 40 good strong swarms. I am pleased to see such good reports from the sisters in bee-keeping, as all the success is due to you.

MRS. JENNIE C. MARCH.

Tecumseh, Neb., Aug. 1, 1884.

When I wrote you about one year ago, I had about 3 hives of bees; but now I have over 30; and with GLEANINGS to read every two weeks, and your A B C book at hand any moment, I have no trouble to manage them. I have raised five queens this year; they are all fertilized and laying, but my bees are mostly hybrids and blacks, so I thought I would get Italian queens, so as to have a cross, if nothing more. Bees are booming here on buckwheat, goldenrod, etc., now. WM. H. GRAY.

West Milton, N. Y., Aug. 9, 1884.

I had a sample of GLEANINGS sent to me. I find it full of instructive matter, so I resolved to become a subscriber. I think you are the gentleman who said at the Toronto convention, "I believe that God is with us," which remark was certainly not lost on the writer. We would certainly be in a dangerous place if we could not take Jesus with us. The sentiment of your journal before me corresponds with that remark. MRS. WM. BRYCE.

Watford, Ont., Can., July 28, 1884.

THE BOYS AND THE BALLOONS.

Bill of goods came duly to hand in nice order. I have had enough fun with the boys and the balloons to pay for the whole bill. There is a wonderful sight of fun in those little paper sacks, when the boys get hold of them. The tested queen and ½ lb. of bees I received from you July 1st, are now a booming colony. From eggs laid by the queen, I have raised three of the most beautiful queens you ever saw, and have got them in hives, and they have all commenced laying. I think I made a fine investment in that queen. J. H. LOUDEN.

Bloomington, Ind., Aug. 4, 1884.

KIND WORDS FROM AN OLD FRIEND.

Some of the earlier subscribers to GLEANINGS will remember Anna Saunders. When GLEANINGS first started, she was, for a time, quite an enthusiastic "bee-woman," and I have several times wondered why we have not heard from her for so long. Has it been on account of poor health, friend Anna?

Many thanks for the circular. That price list is arranged beautifully. Some of the boys have been getting some wild bees (2 stocks) in the last few days; and as soon as I can, I want to go and examine them to see if they have queens. If not, your cheap queens will just suit the pockets of the little fellows. They were two days getting one of the stocks, cutting down the tree, getting at the bees, and then getting them out. I would have lent a hand, but was too sick to stir a step.

ANNA SAUNDERS.

Woodville, Miss., July 1, 1884.

I have been thinking for some time that I would give you an account of my experience with bees; but so far something has prevented my doing so. If you will allow me to boast a little, I believe I will say that you have none in your A B C class who can excel me in handling bees. I have transferred 7 hives without a sting, moved 7 hives without the loss of bees, introduced queens safely, beat robbers at their own game, and to-day I am having the best of success in queen-rearing. Now, don't scold me for having the "big head," for in so doing you will heap reproach on the A B C book, which is at the root of the whole evil. That imported queen I bought of you is doing up things in a business-like manner. It is genuine fun to work with the extractor. We have had considerable yield of honey-dew in this section from blackjack — perhaps *on* blackjack. GLEANINGS comes regularly, and is read with avidity. D. W. MOSS.

San Augustine, Texas, Aug. 2, 1884.

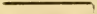
I received the two-frame nucleus and select queen yesterday, according to appointment, by express; charges 90 cts. I'm well satisfied with them; they were in as good condition as when they started on their journey. They did not seem to be broken of rest, or sleepy, and were ready for work this beautiful Sunday morning. I received them at the train between 2 and 3 o'clock P.M., and had them in a hive by themselves between 5 and 6 P.M. I took combs from a hive I built up last Monday, and put in another hive, and turned them loose on those combs. I think they will get along all right. I gave the combs that came with them to the other bees, which I took combs from for them; the queen had deposited quite a lot of eggs in the combs while on her trip.

I had three weak colonies in the spring, and have built them up to 13, besides the ones you sent me. I bought one colony last year in the spring, and built them up to nine, and got honey enough from them to pay all expenses; but I lost six in the winter and spring. DAVID EPPERT.

Glidden, Ia., July 20, 1884.

SOME KIND WORDS FROM A NEW FRIEND.

Friend Root:—Your sample copies of the 1st and 15th just came to hand—the first issues I have seen since 1878, when my father was dropped from your subscription list. He has been a bee-man all his life, advancing from the old box hive to the Langstroth; and now I, his son, have suffered the bee fever to lay hold upon me at an age considerably under 25, and I propose to try to teach and be taught, and subscribe for GLEANINGS. But I am no novice, oh, no! I have been watching "the little busy bee" all along, and read bee-books and GLEANINGS, hived many a swarm, and got more kicks from bees than every thing else together.

I want to watch such men as A. I. Root, Doolittle, Viallon, Hayhurst, Brown, etc., to see that they do nothing wrong; and there's the man Clarke, in Canada, who had a rheumatic vision of "tree-top wintering." What'll I do with him? Get friend Doolittle to help me out, on promise of being easy on *him!* To elevate his hive above the damp, foul gases, we would put it on four 3-foot locust pins, driven a foot in the ground; to secure plenty of "pure but still air," we would get them within a high board-fence inclosure. For the removal of "dead bees, etc.," having the whole entrance open, clean off bottom-board weekly with a wire bent thus:  Did friend Clarke never see a bee-tree with no "shaft" or depression below entrance? May be he never cut many bee-trees.

I notice something about albinos, Holy-Lands, etc. Are any of those varieties of bees minus stings?

With malice toward no modern bee-man, and charity toward all box-hive bee-men, I am lovingly,

JNO. C. CAPEHART.

St. Albans, W. Va., July 29, 1884.

50 COLONIES ITALIAN. and 10 colonies hybrid bees, in 2-story Simplicity hives, 20 L. frames, $7.00; 1-story Simplicity, $5.00 if ordered so I can ship before Sept. 15. Frames about half wired; 10 per cent discount on 5 or more. Safe arrival guaranteed. **J. H. REED,**
14-15-16d **Orleans, Orange Co., Ind.**

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

HONEY COLUMN.

CITY MARKETS.

KANSAS CITY—*Honey.*—This market begins to show some life now, and all choice lots of comb in 1 and 2 lb. sections are taken on arrival at 16@17c. for 2 lbs., and 17@18c. for 1 lbs. No ½ lbs. in at present, but are inquired for at 19@20c. No sale for any thing in slipshod packages. It pays to use the very best basswood or white-poplar crates. They will sometimes sell a darker grade of honey at better prices than white honey in ugly crates. Extracted is still in good demand, but at low figures, 7@8c. *Beeswax* nominal at 28@30c.

JEROME TWICHELL,
Aug. 7, 1884. 514 Walnut St., Kansas City, Mo.

DETROIT.—*Honey.*—Honey is selling slowly, for the demand is but slight. Prices are very unsettled, ranging from 15 to 17 cts. *Beeswax* 30@34c.

A. B. WEED,
Aug. 12, 1884. Detroit, Mich.

CLEVELAND.—*Honey.*—The honey market seems to have finally settled down to 16 cts. for best 1-lb sections. We made a sale to-day of nearly 100 crates at 16; for small lots and single cases, 17 is occasionally obtained; 2-lbs. still drag at 14 to 15. There is a limited inquiry for extracted, white, at 9 cts., but our market is always very poor for extracted. *Beeswax* 30.

A. C. KENDEL,
Aug. 30, 1884. 115 Ontario St., Cleveland, O.

ST. LOUIS.—*Honey.*—No improvement in our honey market. Extracted in barrels, 5½@6c.; in cans, 7½@9c. retail, when a sale is made.

There is no choice comb honey in this market, and no demand for any kind. Nominal, 10@12½c. for dark; choice worth more.

Beeswax.—Since our last report, the market has gone 8 cts. a pound lower on beeswax, and not much demand. Mixed, worth 25c.; choice, 27½. We do not look for any improvement this year.

W. T. ANDERSON & CO.,
Aug. 11, 1884. 104 N. Third St., St. Louis, Mo.

FOR SALE—2000 lbs. of white-clover and basswood honey, in kegs of 50, 100, and 200 lbs. Delivered on board of cars at Oconomowoc.

E. S. HILDEMANN, Ashippun, Dodge Co., Wis.

FOR SALE.—I have 14 barrels basswood honey, of fine quality; 6 barrels clover, 1500 lbs. in sections, basswood mostly. Who wants to buy? Send on your bids.

A. A. COUEY, Port Andrew, Richland Co., Wis.

FOR SALE.—A fine lot of honey. Will take 9 cts. per lb., or $1 per gallon, cash, delivered at Warsaw, N. C.

D. E. ALDERMAN, Clinton, Sampson Co., N. C.

I have on hand about 600 lbs. of extracted honey, nearly all clover, and well cured before taking off. It is in barrels, waxed inside and painted outside.

A. F. ROBINSON,
Marysville, Union Co., Ohio.

I have between 200 and 300 lbs. of comb honey in 1-lb. boxes to sell—white-clover—at 15 cts. per lb.

JOHN ETTINGER,
Aug. 12, 1884. Hopkins Station, Mich.

Fine Warranted Italian Queens,

$1.00 each; 6 for $5.50, or $11.00 per dozen. Safe arrival and Satisfaction guaranteed.

S. WHAN,
76d. **Raymilton, Venango Co., Pa.**

FOR RENT,

My apiary of 100 colonies, with good house, wagon-house, shop, honey-house, Given fdn. press; over an acre of land, with plenty of fruit, or I will let the same on shares to a good reliable man. For particulars, address

A. E. WOODWARD,
16-17-18d, Groom's Corners, Saratoga Co., N. Y.

NOTES FROM THE BRIGHT-BAND APIARY ABOUT THE COMING BEE.

KIND FRIENDS, I am glad to state that I never sold queens that gave as much satisfaction as does the cross between Italians, Cyprians, and Holy-Lands. They are undoubtedly less apt to sting than any race of bees; and for honey, I shall not hesitate for a moment to state that they beat them all; and for beauty, I only ask you to send two letter stamps for a sample of live workers, and see for yourself. I can also furnish the very best queens, raised from imported Italians, to those who prefer them. Price of either race, untested, but laying, 90 cts. each. Tested, $1.50 each. Full instructions sent with each queen, and safe arrival guaranteed.

FOUNDATION BY MAIL.

I will furnish good foundation *by mail, postpaid,* at 65 cts. per lb. This is to be 7 inches wide, and whatever length you want. Sample free. Make money orders payable at Shreveport, and address

CHAS. KINGSLEY,
15-tfdb. Benton, Bossier Co., La.

P. S.—There is no foul brood in this State, that I know of.

STOP *and READ.*

I will sell ninety swarms of bees in new Simplicity-Langstroth ten-frame hives for five dollars each, in lots of ten or more, if taken on the ground, each to contain a warranted Italian queen, and most of them are beautiful three-banded Italian bees, and, of course, these have tested queens. I will deliver on board cars in Bellevue for six dollars each, in lots of ten or more, or seven dollars for a single hive of pure Italians. Address

16d **M. R. NICHOLS, Weaver's Corners, Huron Co., Ohio.**

QUICK! OR YOU LOSE THEM.

1 Untested Italian Queen from BEST Imported Mother, 70c; 5, $3.30; 10 or more, 50c each.

16 **E. H. COOK, Andover, Conn.**

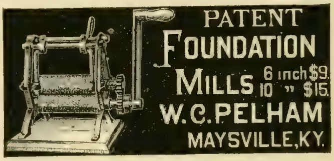
PAPER HONEY-BOXES for any, with one-pound sections. Shipping - cases for comb honey. Fifty colonies Italian Bees for sale.

16-17tfd M. ISBELL, Norwich, N. Y.

PURE ITALIAN QUEENS.

100 UNTESTED QUEENS IN THE NEXT THIRTY DAYS AT 75 CTS. EACH.

Bred in Full Colonies from Selected Imported Mothers. **D. G. EDMISTON, Adrian, Lenawee Co., Mich.**
14-17db



PATENT FOUNDATION MILLS 6 inch $9. 10 " $15.
W. C. PELHAM
MAYSVILLE, KY.

A GRAND OFFER!

Desiring to go into bee culture, I should like to find a man, either married or single, who understands this business. I will give him half of the profits; advance lumber for hives; will lodge him on the place, and give him 10 to 12 acres to work at his leisure. My farm is near a dense wood, about half mile, and within 3 or 4 miles of a railroad station. I am told this is a good locality for bees; cotton, corn, fruit, and wild flowers abound. Correspondence solicited with the proper parties. Address

F. P. PERRY,
Franklin, - St. Mary's Parish, - La,

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.
F. A. Whiting

Vol. XII. AUG. 15, 1884. No. 16.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

THE APHIDES ON THE MAPLE-LEAVES, ETC.

PROF. COOK'S REPLY TO FRIEND FRADENBURG'S ARTICLE ON PAGE 524, LAST ISSUE.

THE galls which A. A. Fradenburg finds on the soft-maple leaves, upper surface, are caused by mites (*Phytopus quadripes*). These mites are very abnormal, or non-typical. Most adult mites have eight legs, while these have but four. Their irritation causes a gall to form on the upper side of the leaf. Mr. F. says he found 120 galls on a single leaf. It is not uncommon to find even a greater number. I think over 300 have been noticed. The elongated mites appearing like minute white specks are within the gall, where they find a sheltering home and toothsome food at the same time. I believe it was Coleridge who was so fond of pudding, or sweet cake, and that one of his remarkable dreams was that he had a house of it which he was forced to eat out of. These mites are not unlike the great poet. The scales under the leaves are the young bark lice, recently described and figured by me in GLEANINGS, page 438. The sweet is doubtless from the bark lice, though there may be aphides or plant lice which add to the nectar. I have recently received white clover from Illinois, which was covered with such aphides. This clover was fairly dripping with this secretion.

This bark-louse nectar is very peculiar in its flavor, and is very deleterious to the honey. Hereafter we must be on the lookout, and extract this, if present, at the dawn of the white-clover season.

A. J. COOK.

Ag. College, Lansing, Mich., July, 1884.

And so it transpires, if I gather correctly from the above, that it was the bark lice, and not the aphides, that furnished the sweet secretion, and this illustrates how easily we may be misled in drawing conclusions, especially when we are in a field where we are comparatively unacquainted. May I not suggest, however, that the maple seems unusually full of saccharine matter this present season, and that, therefore, it is exuded by different kinds of insects that feed on the foliage? A few days ago, in passing an osage-orange hedge, I heared a loud humming, and investigation showed multitudes of blue bugs, almost the size and shape of common buckwheat, which were feeding on the rank foliage, and the bees were chasing them about for the coveted sweets. It seems to me this is a season of sweetness, although some of the sweetness is a little suspicious.

FROM THE NORTHEAST CORNER OF CALIFORNIA.

REPORT FROM ONE OF OUR A B C SCHOLARS.

MR. ROOT:—Thinking that a few lines from one of your A B C students from the far-off northeast corner of California would not be amiss, I will give you a short report of Mr. Tithirington's and my progress in apiculture this season.

We commenced this spring with 50 colonies in box hives; drove a large portion into the Simplicity hives that we got from you, and we increased to 90 by artificial and natural swarming. We have 70 in Simplicity hives; and 20, for the want of the Simplicity, are yet in boxes. We are now in the midst of our honey-harvest, and it bids fair, considering the cold, backward spring that we have had. We lost a few queens in driving; but having a queen-hatcher it was an easy matter to supply their places. One of the colonies was without a queen so long before we were aware of it, that a worker-bee commenced to lay, and it gave us some trouble before we got it righted; and the way that we finally did was to put a full swarm in with them that had swarmed from another hive. They commenced work without any further trouble, and are doing well. Although we are in the midst of our honey-harvest, they still cast a swarm every two or three days; but when they come from one of the Simplicity hives, it is an easy matter to handle them while they are sitting on a bush. I examine the frames in the hive they issue from, and cut out all the queen-cells, and then put them back into their old quarters, and theygo to work as though nothing had happened; the last five I have treated in that way, and they are all storing honey in the top story in fine style. I have not seen any mention of any one proceeding in that way; but, disliking to have the swarms so divided during harvest, I thought I would try the experiment, and I am highly pleased with the result.

It is quite expensive for us to ship supplies from your factory, and we should like to know if there is any one manufacturing the Simplicity hive on this coast, where we could get them without having to pay for shipping so far. P. CHAMBERLIN.

Susanville, Lassen Co., Cal., July 28, 1884.

Friend C., the better way to find out where manufacturers of Simplicity hives reside is to consult our list of "Catalogues Received," which we publish almost every month. Perhaps manufacturers of Simplicity hives living near you will, on seeing this, take the hint and mail you their price list.

STANLEY'S AUTOMATIC EXTRACTOR.

AT LEAST ONE GOOD REPORT FROM IT.

YOU ask me how I like the Stanley Automatic Extractor. I must say, it *works*. How? As near perfection as mortals can at present make any machine work. What is its worth compared with other machines? As I have used several makes during the past 12 years, among them Newman's, Gray & Winder's, yours, and some others, I give Stanley's precedence over all, in *all points*. Especially do I commend it to those handling 50 colonies or more. Those having a few should by all means use a cheaper machine.

Its mechanism is very good. The can is very substantial, and well made. I simply set it upon an X, made of 10-inch boards, which lets a pail under the faucet, turn the crank, and the heaviest of combs (four of them) do not cause any jumping of can, or joggle.

The specialist, whose time is always very valuable during the honey-flow, and who extracts even that which is absolutely necessary, can not afford to be without Stanley's Automatic Extractor—much less the bee-keeper who extracts entirely.

Our white-clover flow is not half as good as it was last year. And some of it is mixed with dark honey-dew. Much rain will probably give us fall honey.

F. O. SHEPARD,

Arrow Rock, Mo., July 29, 1884.

FORGETTERY.

SAYING GOODS WERE NOT THERE.

FRIEND ROOT:—The goods ordered of you were all satisfactory with one exception; and this, I presume, belongs to the "Forgettery." I ordered a 48-pound retailing case complete, price 50 cents. Thanks to the "Forgettery," your clerks sent me a part of a case *in the flat;* namely, the end-boards and the glass; also the strips that are fastened over the edges of the glass; but, no bottom and no cover. I waited until I got all the goods before I made this complaint, but I can not find the missing parts, either in the honey-tumblers or in the package of labels. However, you need not bother about sending those boards now, separately. Will have no use for the case this season anyhow. Basswood was a failure, and now all vegetation is drying up.

S. P. YODER.

East Lewistown, O., July 21, 1884.

On receipt of the above, one of the clerks wrote as follows:

The packer who put up your goods says he remembers putting in the bottom and cover to the retailing case, and that they fitted very closely into the box. Possibly you have mistaken them for the bottom of the box. Please examine thoroughly; and if you do not find this to be the case, let us know how much you think we ought to allow you for the bottom and cover, and we will credit you for same.

On receipt of the above, friend Y. replies:

I beg your packer's pardon. The bottom and cover of retailing case were *inside* of the glass box, jammed in so tightly that they could well pass for the bottom of the box. S. P. YODER.

East Lewistown, O., July 31, 1884.

Some goods are short. Honey-stand in flat, iron vise, wire nails—$1.24. Please ship with next order for goods by freight. A. M. H.

In answer to the above, the clerk wrote as follows:

Upon referring to your former order, we find that the goods you say were omitted—viz., honey-stand in flat, vise, and 1 lb. wire nails, are double checked—first, by the clerk in the counter store, who picked up the order, and afterward by the packer who put up the goods. After such careful review of the order, it seems almost incredible that so many articles *could* have been omitted. Will you not make another thorough search for the missing articles, and let us know the result? Of course, if you do not find them, we are willing to make the loss good. But, we want to be sure we are right before we go ahead.

I confess, that after reading her reply I felt the above was a little too severe; for some of our friends have got awful mad when we suggested to them that *they* have made a mistake. The reply below, however, shows that it was not too strong, and it illustrates, too, how a great many of these troubles and jangles come about:

In reference to order June 8, I told you we had not been able to *find* certain articles. The *truth* of the matter is, that I have not been able to attend to our apiary for some time. In unpacking, Mr.—— checked off every thing that came out of the two boxes. The boxes, as usual, were (after the covers had been nailed on) piled up in a storeroom. A few days since, I was able to be up, and took my box-chisel and hatchet, and opened the boxes. In one corner, at the bottom, I found the vise, and, lying on the bottom, the honey-stand. Brother Root, it was almost enough to give me a relapse; but I went to bed without finding the nails. I do not say that the nails were omitted, but I have not been able to find them. It seems strange that so small a thing as the queen-cell knife, pocket tool-chest, etc., could be found, and an iron vise and honey-stand be left in the box. Mr. —— is honest, industrious, and will tell the *truth* every time; but if he can't find a vise or honey-stand, in a small box, how is it possible for him to become a successful apiarist? But I will hope for better things in future. With ordinary sense, and *truth* to build on, I will not despair.

A. M. H.

Friend H., there is a big lesson here for a good many of us. The *Scientific American* recently published an article, giving replies from a great number of eminent men, in regard to the question, "Why do men fail in business?" Among the answers furnished, quite a number struck on this very point. A great many men fail in business because they are not thorough. They are honest and industrious, but they lack just where the above strikes. Thousands of men, and women too, are out of employment, and I have sometimes thought the very reason why they are out of employment was just because they made more trouble by such little acts of heedlessness than all their work amounted to. I am sorry to say it, but there is only about one person in a hundred who comes to me for employment who is not guilty of careless acts like these. Sometimes I have been uncharitable enough to think that, if they were handling their own money, or their own property, they would do better; but, alas! they waste, lose, and destroy things of their own in the same way. What shall be done for people of this class? I have wondered sometimes if college training would do it, but it does not seem to.

In my daily round over our establishment, and over the grounds belonging to it, I meet constantly with wastes and losses; and I long and pray for men and boys who will be constantly asking themselves the question, "Is the work I am doing now, counting in such a way that there is a profit on every hour's labor for which I receive pay?" Once in a while I find a man who flatly declines to receive pay for work, when that work by some blunder of his own is a dead loss, or does not amount to any thing. And such men always improve; sooner or later they command large salaries, while those who go along heedlessly, with their eyes apparently somewhere else than on their work, never make any progress.

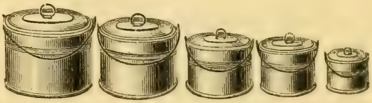
Not many years ago I received a second letter from one who had been formerly in my employ, begging piteously, almost, for work. When he was here last he went to draw some quite expensive machine oil. As the weather was cold, it ran very slowly; and as he didn't like to waste time waiting for it, he left it running until he could attend to some other little duty. Then he forgot it, and went to dinner. While he was at dinner, Ernest discoverd the oil in puddles on the floor, and went to gathering it up as best he could. When told what he had done, the man let the matter drop, by a simple explanation of how he happened to forget it; but never, at that time or any other, volunteered to bear any part of the loss. Now, this friend has many good qualities; but I decided then, and I decide now, that I can not furnish employment to any one who proposes to go through the world after that sort of fashion, especially without making any proposal to bear any part of the expense caused by his forgetfulness.

Friend H., the man you refer to will never become a successful apiarist, or any thing else, I fear, until he overcomes this most grievous deformity of his character. I have taken this much space, friends, in dwelling on this point, because it is one of the most grievous troubles that beset humanity. A man who is careful, and makes every movement count, is worth 20 cents an hour, even though he may be comparatively slow and awkward; while one who blunders through life would have hard work to find a steady job at 10 cents an hour.

THE NEW NESTED PAILS.

PAILS FOR HONEY, AND PAILS FOR OTHER PURPOSES.

BELOW we give an engraving of the new honey-pails recently spoken of. You will observe, that they are made with the intention of nesting one in the other. This saves transportation, for they go by freight, when thus nested, at about the price of stamped ware. The whole nest complete is 40 cts.; 10 nests, $3.75, or 100 nests for $35.00. We can sell 50 nests for $17.50, as the pails are boxed by the manufacturer, 50 nests in a box. Prices singly will be as underneath the cut shown below. Where our friends at a great distance want to see a nest, they can be sent for 50 cts. extra for postage.



	4 qt.	3 qt.	2 qt.	1 qt.	1 pt.
Price 1	$ 20	$ 15	$ 10	$ 5	$ 5
" 10	1 60	1 25	85	50	48
" 100	12 50	10 00	6 50	4 75	4 00

We can not break packages of 50, unless we charge tens rates for them, for they are boxed up 100 in a box; and to open the boxes and make a new one is quite a task. It is not possible to make pails like these at these prices, without very expensive machinery, as you can very easily determine by getting prices at your tinshops; but when the expensive machinery is once ready to run, it can just as well make pails day after day as do nothing, and therefore the manufacturers have given us these very low figures. It is going to be a damper on the attempts of any private individual to make his own honey-pails, I am well aware; but it can not well be helped, for this same thing is now coming up in regard to almost every thing we use largely in domestic life. It is, however, a boon to bee-keepers, because these pails can be very prettily labeled, and even then given away with the honey.

You will observe, friends, that 100 pails of each size cost $37.75, while 100 nests are worth only $35.00. The difference is in consequence of the extra boxes that would be required, if they are shipped without being nested inside of each other, and this is an argument in favor of nested pails. It also accommodates customers; for if you keep one of each size constantly filled with honey, you can be in readiness to suit the taste or pocketbook of almost any one who wants to purchase honey.

RECENT DEVELOPMENTS,

And Suggestions and Queries Particularly Pertaining to the Season.

MRS. COTTON.

FRIEND ROOT:—If any of the many readers of GLEANINGS would like to have Mrs. Cotton's book, which she sells for $1.00, and the drawings for making her "Controllable hive," for which I paid her $3.00, if they will send me $1.25 by registered mail, I will send them to them by return registered mail, just as good as they were when I paid her $4.00 for them. L. HALL.

Sparta, Miss., Aug. 5, 1884.

Thank you, friend H., for reducing the price; but it seems to me that $1.25 would be a little expensive, even yet. If you paid $4.00, however, it seems to me the reduction you make ought to be considered a pretty liberal one. The above illustrates the point I have been trying for some time to get at. A commodity ought to be worth pretty nearly what it costs; that is, to any person who wants the article in question, and I believe this holds true with almost all of the ordinary supplies for the apiary.

THE GOLDEN BEE-HIVE IN MICHIGAN.

The Golden bee-hive man is selling rights in Michigan. Is reported to have taken $400 from one vicinity in the last two weeks. *Too bad!* Oh for more knowledge and honesty! A. J. COOK.

Lansing, Mich., July 30, 1884.

GOOD FOR FLORIDA, HONEY FROM THE MANGROVE.

The honey crop will be above the average here this season, as we have had and are having a heavy flow from the mangrove. I have got 200 lbs. per colony from my 88 colonies, spring count, and have incresed to 110 or 112, so far. You see by this that I have no reason yet to take back the assertion, that "the mangrove never fails to give a good paying crop." W. S. HART.

New Smyrna, Fla., July, 1884.

A GOOD REPORT FROM FIGWORT.

I feel like telling you that the figwort seed I got from you last spring has done wonderfully. I sowed it in a bed in the garden; it came up well, and some of it is 4 feet high. I transplanted about one hundred plants, and gave them some cultivation, and some are seven or eight feet high. The bees work on it early and late in the sunshine, and in quite a fall of rain. I think it is the finest honey-plant I ever saw. If there is any plant that will pay to cultivate for honey alone, surely this is the one. I can let you or some of your customers have from one hundred to a thousand roots for transplanting in spring. Bees have done pretty well here this year—too much honey-dew: it is on almost every thing—the beech, oak, maple, red gum, peach, and even on the rose-bushes. I have increased from 7 in the spring, to 29. Not much honey just now. R. P. WILLIAMS.

Maynard's Cove, Ala., July 30, 1884.

IS YOUR BUSINESS A PLEASURE TO YOU?

It is a pleasure to me to do business with a man who is always ready and willing to do right; then if any mistakes should occur (which they will), you need have no fears but that it will all work out right. This is my rule in all my business with my customers, if I have to do even *more* than what is exactly fair. J. S. TADLOCK.

Luling, Texas, July 28, 1884.

A PARODY ON BEAUTIFUL BEES.

We were a little undecided as to what department the following belonged in, but finally concluded that this was the proper place. It is surely original, and I think I am right in calling it fully up to the times. See what you think of it, friends.

O bees bees O buteful bees
 I love to ear you hum
I kno that in the neare future
 There will be honey to cum.

O bees bees O buteful bees
 That stores the honey so snug
That all the bys and gurls do sa
 That it is vere gud.

O bees bees O buteful bees
 I love to se you fly
And se you work opon those flowers
 That grose so low or 'i.

O bees bees O buteful bees
 How quarelesom you can be
If from your 'ive
 We go to take sum honey for oure tee.

O bees bees O buteful bees
 Don'te get youre backs to 'i
Or you will get sum gud strong smoke
 That will put you on the fli.

Highlandville, Mass. J. LINCOLN TWIGG.

AN A B C SCHOLAR ASKS SOME QUESTIONS.

On opening a hive of hybrids a few days ago, I found a great quantity of drone-comb on the sides. I had previously put about two inches of worker-foundation along the top-bar; they drew the foundation out, and made worker-comb of it, and filled it with honey and pollen; below this they made drone-comb in two of the large frames (20x11 in.), and in another hive the same, except they put honey in it, and no drone-brood or pollen.

Now for questions. Do bees make drone-comb for any other purpose than to rear drones therein?

I believe bees do not make drone-comb for any other purpose than to rear brood.

Can they rear worker-bees in drone-comb?

Occasionally, instances are given where workers are hatched from drone-comb, but it is the exception and not the rule.

Do you think I have a drone-laying queen?

A drone-laying queen won't make the bees build drone-comb. I do not think you have a drone-laying queen.

What do they want of drones at this season of the year? In one hive they are killing their drones, and another are rearing more. What is the cause of such?

I presume they have honey in such abundance that they are getting the swarming fever, and therefore they build drone-comb, and the queen expects to fill it with drone-brood.

Are bees making wax while clustering outside of their hive? Do bees loaf around when there is honey to be gathered, and their hive is not full?

I do not think bees are secreting wax, as a general thing, when they cluster on the outside of the hive. They will sometimes loaf around when honey is to be gathered, when they are thinking of swarming, or when their hive is full, or something of that sort.

Have you any way to keep the queen from laying in certain frames? In some of my hives the queen lays in every frame except on the side, next to the side of the hive.

We keep the queens from laying in certain frames, by the use of the perforated zinc. That is the only way I know of.

Do the bees fill their brood-combs with honey after the queen stops laying for the winter. If they do not, can one make them do so by feeding in the fall?

If the honey-flow continues late, the bees do sometimes fill the combs after the brood is hatched out. You could probably make them do so by feeding, if the feeding did not cause the queen to lay more eggs and rear more brood.

How much " boot " will you take between one of your old A B C's and one of your new? There are no leaves gone, and soiled but very little.

For answer to this question, see page 519.

The sample one-piece section box did not come all in one piece; it was broken in two places. But it is good enough to give one an idea of how they are made.

The single samples we send by mail often get broken, friend P.; but then, it gives you an idea of how they are made, just about as well.

HOW TO STRAIGHTEN COMBS THAT HAVE GOT BENT OUT OF SHAPE.

Not long ago I took an empty frame of comb from a hive, and laid it on a shelf, one end of which rested on a milk-cover. After putting my smoker away I went to pick it up, but the sun had made it so soft it would not bear its own weight, so I put a piece of paper over it until it got cool. When I picked it up it was kinked out of shape. So I put it in the sun again, on a smooth place, and it straightened itself out again, and I replaced the paper, and then when it was cool it was all right. This is the way I mean to straighten my other crooked combs as I get them. No patent on this. I don't know how it would do if it were full of honey. A. H. PERING, JR.

Clear Creek, Ind., Aug. 4, 1884.

You can straighten combs in this way, friend P., when they are entirely empty, as we often find them in the spring; but it is apt to make the cells on one side a little smaller than they were before; and if brood is put in them you will have some small-sized bees, as I explained a few months ago.

HONEY FROM RED CLOVER.

ARE ITALIANS SUPERIOR TO THE BLACKS FOR RED CLOVER?

I HAVE something to tell you. I did something to-day that I never did before (in August) in my life. I extracted a nice lot of honey to-day, and it is the finest, clearest, and best-flavored honey I have ever seen, and I have seen a great deal. I have seen the noted white-sage honey of California, and the beautiful honeys from Florida, but I think this surpasses them all, and what do you think it was gathered from? It was gathered from the common red clover by my Italians. I have had Italian bees only two seasons, but they are certainly far superior to the blacks. I do not think what few blacks I have yet have gathered 20 lbs. of that altogether. I want it distinctly understood, that I have no queens to sell, as I have not enough of pure ones for my own use. I will send you a 2-pound bottle of it, if you desire to see it, which I hope you will, as it is a treat just to see and taste it. I do not suppose I shall have any large quantity of it to sell. Our clover-fields around here are in full bloom for a crop of seed, and it is certainly nice to see the bright and pretty Italians flit from bloom to bloom, sipping the sweet nectar, and see them, when they reach home, drop on the alighting-board with a thud, and march in with a joyous hum. I will make way with the blacks next season, the last one of them, nothing further preventing than I know of at present. As a general thing, we never have any bloom for bees to gather honey from in this month, except red clover; and before I had the Italian, we had no bees that could reach the red clover. JAMES CRAIG.

Mt. Meridian, Va., Aug. 1, 1884.

REPORT FROM AN A B C SCHOLAR.

AND A REPORT THAT FAVORS EXTRACTED HONEY RATHER THAN HONEY IN SECTIONS.

I THOUGHT I would send you a short report of my experience in the bee business. I have been trying to farm since the war. I was all through the war. I was a prisoner in Andersonville and other prisons for eight months or more, consequently I have very poor health, and can not do much farm work. I have always had an interest in bees, and have kept a few in gum hives for seven or eight years, and never got what we could eat. I got hold of some bee-journals, and read some of what I considered unreasonable reports from bee-keepers; but still it increased my interest in the bee business very much. So one year ago last spring I paid $125 for 17 colonies of bees, Italians and hybrids. I had four colonies of blacks; increased by natural swarming to 71; lost 4 in wintering, and began this spring with about 60 good strong colonies, and 7 weak ones. Some had but very few bees, not enough to cover one comb. They commenced swarming the 15th of May, and I now have 102 colonies as the result. Last year I did not extract; comb honey in two-pound sections, but they paid for themselves. This year I have been extracting from 44, until basswood began, then I extracted from 47; all the rest were working in sections.

The flow from basswood was enough to drive all doubts from my mind concerning those reports in the journals, and my report ought to settle the matter in regard to which is the more profitable, working for comb or extracted honey (that is, if you will believe me). Please remember that those from which I extracted had to build their comb.

At the commencement of basswood I had from 44 colonies about 1900 pounds of honey, and the combs mostly made. The flow from basswood lasted about 15 days, and I got 14½ 32-gallon barrels of as beautiful, clear, thick honey as man ever looked at, from 47 colonies, in 15 days. In the midst of the flow I got 140 gallons in just three days. From the remainder of my bees, which have been working in sections, I don't think I have got more than 1500 pounds. I have my honey in basswood barrels, and am well pleased and well paid in this bee business. I have the A B C book, and take GLEANINGS.

I am glad to see the bold stand you take in your journal against that pernicious weed tobacco. If I had time I should like to give you 25 Scripture texts against the use of tobacco, which ought to convince any man who desires to be an honest, clean Christian.

I may give you the conclusion of this summer's report at the close of honey-harvest. I have a splendid range for fall honey here. There has been no honey coming in since basswood gave out. There was an expert who told me the other day that bees make a great deal of honey from corn tassel, but I hardly believe it. I think they get pollen from it, and that is about all. A. A. COUEY.

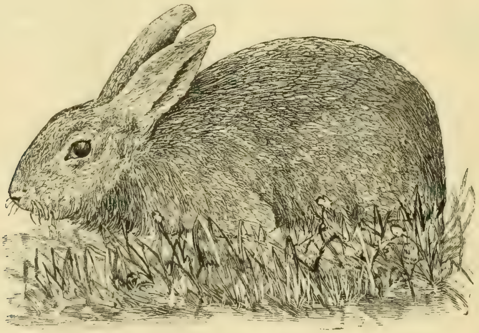
Port Andrew, Wis., Aug 3, 1884.

RABBITS, AND HOW TO RAISE THEM.

ALSO SOME GENERAL IDEAS CONCERNING TREATISES ON SPECIAL SUBJECTS.

FRIEND A. A. FRADENBURG has published a little book with the above title; but before I talk about rabbits I want to speak about books on special subjects. I do love to talk with a man who has studied some special branch of agriculture, or kindred sciences, until he knows all about them, or, perhaps, more about them than anybody else. In my boyhood, before I knew a thing about bees, I used to delight in reading the small bee books that were occasionally to be found then. Last spring I got hold of Gregory's book on squashes, and I thoroughly enjoyed several evenings in reading what my wife and children called my "squash-book," although I had not any idea of raising squashes at all at that time. Within the last week I have read with a keen relish "Gregory on Cabbages," and since then our cabbage-patch possesses an interest for me that it never did before. And so it is with books on onions, strawberries, and any thing that has assumed sufficient importance to be worthy of a book.

Now, I do not know whether caring for rabbits has become an industry sufficient to warrant a book just yet or not; but I do know that friend Fradenburg's little pamphlet about rabbits has proved quite interesting to me, and I think very likely many of our juveniles will find it very interesting reading. The nicest part of it is, that friend F. mails it free of charge to any one who tells him on a postal card that he would like to have it. He does this because he expects to sell enough rabbits to pay him for his trouble. But if you should get the circular, and profit by the information it contains, and not purchase of him at all, I suppose it will be all right; in fact, I am sure it will. Do you want to know what this has to do with bee culture? Well, friend F. thinks rabbits are cheaper in the long run than lawn-mowers to keep the grass down around the bee-hives; in fact, at our bee convention at Columbus last winter he talked rabbits quite a considerable. You will remember, that on page 666, Vol. XI., he wrote something about them, calling them his four-legged chickens. I wonder if some of the little friends would not like to see a picture of one of these rabbits. Well, here it is, and it was made from a photograph.



Now, the only unpleasant thing about this rabbit business is, that they kill them for food. Friend F. says they are as good as a turkey. I suppose it is right to keep them for food, and perhaps it is only a weakness on my part that makes me shrink from the idea of killing them. I think you had better send for the little pamphlet, any way.

STARTING AN APIARY.

SOME SUGGESTIONS IN THE MATTER BY OUR FRIEND J. E. POND, JR.

THE question is often asked, "How shall I start an apiary?" and this, too, irrespective of whether the party is qualified, either by nature or education, to become a bee-keeper. That there is a peculiar fascination in the pursuit of bee-keeping, every person who has engaged therein can attest. This fascination, however, is somewhat dispelled in the minds of many when, instead of caring for a few colonies, they are obliged to care for many. He who cares for half a dozen colonies, as a means of recreative exercise, may well believe that the business is most delightful; but with one hundred or more colonies on his hands, in the swarming or extracting season, with the thermometer among the nineties, he will begin to think that the work is a little bit hard; and, unless he is fitted by nature for the business, he will find his enthusiasm oozing out with the perspiration caused by hard work and intense heat. To those who are really desirous of starting an apiary, I will say there is but one way to do so, with a prospect of attaining fair success, and now is the time to begin preparations to that end.

The first thing to be done (and this thing is imperatively necessary) is to get some of the best works on apiculture, and carefully study them during the coming winter evenings. Among these works I can recommend the A B C of Bee Culture, by A. I. Root; Cook's Manual of the Apiary, and the Hive and Honey-Bee, by Rev. L. L. Langstroth. A careful perusal of these works will occupy the spare hours of the time from now till spring, and will give the student a theoretical knowledge of the occupation, so that, in the early spring, he will be ready to start the practical part of the business in an understanding manner.

Let me say right here, that the *study* of the above works is indispensable; it will be of little use or value to barely skim them over; they should be read so carefully and thoroughly that every prominent point is indellibly graven upon the tablet of memory. Without this preparatory study, an attempt to practice in the apiary will be like a mariner taking a long sea-voyage without chart or compass, for these works are both chart and compass to the beginner in apiculture; and a knowledge of their contents will teach him the correct course, and show him where the hidden rocks and quicksands lie.

In early spring, after obtaining the theory of bee-keeping by study, a colony or two of hives may be purchased; but let me say, "Don't start in too big." The practice can be better gained by the beginner with two or three colonies, than with more; and if it is found, after a trial, that the labors in the apiary are too severe, or of a different nature from what was expected, no great loss will accrue in abandoning the pursuit. In purchasing colonies, be sure to get them in frame hives. Many advise getting bees in box hives, for the practice in transferring; but I advise differently. Transferring can be done any time; but the beginner who starts in with a job of transferring on his hands will, I fear, get sick of the business, and abandon it in disgust before he gets half through transferring his first hive. In purchasing bees it will be advisable either to obtain them of some known dealer of good repute, or else get some friend who is acquainted with bees to select them. After selecting your bees, and getting them home, the first practical start is made; now apply practically the theory gained by study; devote your spare time to them, and ere another year rolls round you will know whether bee-keeping is your forte or not.

Foxboro, Mass., July 28, 1884. J. E. POND, JR.

BEES IN INDIA.

OUR MISSIONARY FRIENDS IN A QUANDARY.

QUITE an exciting event took place in our usually quiet home yesterday, and obliges me to send for an A B C book. We were at dinner; the thermometer was up in the hundreds, and we were having a rather hard time trying to keep cool. My own thoughts were deep in my sermon, which I was preparing for the evening service in our chapel. Just then a great humming filled the room. At first we did not know whether our visitors were hornets or bees; but soon we found that a large swarm of bees had chosen the top of a clothes almira, on the back veranda, for their home, and were rapidly fling in through the crack between the doors (for every thing has cracks now it is so hot), and settling in their new home.

Everybody was excited, for we have so little to break the routine of mission life that we are ready to get excited at almost any thing. Little Ruth and Nellie were delighted, and one of them exclaimed, "Now we can have bees just as they do in GLEANINGS." You see, they had been studying your magazine. As it was Sunday evening, we contented ourselves with bidding our visitors welcome; but this morning we have had a counsel of war, or, rather, of peace, and have concluded to try to make them a house. So we have been studying GLEANINGS, to learn how to make a hive; and though we see lots of pictures of the *outside* of hives, yet we don't see the *inside*, and that tells us we ought to have the A B C book, if we entertain our visitors properly. However, I remember seeing a hive when a boy, but it was an old-fashioned one, and I distinctly remember that, if we ever wanted honey, we had to kill the bees with brimstone smoke. I can remember to this day how sorry I used to feel for the poor bees. I think, however, I shall have to get one of the old-fashioned hives made, because I don't know how to make any other kind; and when the A B C book comes, if our visitors conclude to stay with us we will give them one of the best palaces to live in we can learn how to make. You would be pleased to see our carpenter. He hasn't very many clothes on, to begin with. He sits down on the ground under a tree, or under the house, and holds the boards with his feet, and planes or saws them. I think I shall take some old packing-cases, which have come from America, for the hive. As it is very hot here I am sure we must have a draft of air through the hive, so I will have doors on the top to let the air through. I think I will put a bit of glass in the back of the hive, so that, if the little strangers stay with us, Ruth and Nellie can see them work.

Now, that is my bee-castle, which my Burman carpenter calls a "Pya-aing." I find that in some parts of the country these bees are domesticated, and that large earthern chalties, with holes punched in the bottom, serve as hives, and that, when honey is wanted, a stick is put through a hole, and the comb broken so that the honey drops down, and is secured without killing the bees. I am told, also, that the bees will thus stay several years in one place. As the little fellows have come to us, I think we will try to keep them; and if you will kindly send me an A B C book I shall be greatly obliged.

You may be interested to know how our little colony gets on; and if so, I will report progress by and by. God be thanked for the grand work you are doing for him. I wish all our business men would serve God in their business, as I believe you are doing; then his name would have more honor from his people, as it ought to have.

REV. A. BUNKER.

Toungoo, Burmah, May 4, 1884.

REMEDIES FOR ANTS, CUTTING A BEE-TREE, ETC.

ALSO SOME GENERAL REMARKS IN REGARD TO COMMENCING BEE CULTURE.

AS remedies for ants are in order, I will give mine. Strong alum water; proportion, ½ lb. to ½ gallon water, boiled until it dissolves. Apply to shelves with a brush or cloth; have it either cold or hot. It will also keep away roaches, bedbugs, and other insects.

I have been taking GLEANINGS nearly a year, with a view to engaging in the bee business. My husband's health failed several years ago, and I have had to supplement the family support by teaching. We moved here last year from Arkansas, and this new country is yet too thinly settled to support a school. There are no bees kept by any one near us, and I am anxious to get some wild ones. The children found a bee-tree last week, and came home delighted, knowing how pleased I would be. Mr. Redding went to see the man whose land it was on, but he was not at home; so he got a neighbor, and the neighbor's wagon and mule, made a hive, and, after reading carefully your directions in A B C, they started with pans, pails, saws, etc., in high glee. They thought the man could have no objection, for no one in this country has ever heard of any one refusing one a bee-tree. They got the tree cut about half down, and the owner came up and stopped them. He said he didn't love honey, didn't want the bees nor the timber (it was a dead pine), but they should not cut it down. You see, he just wanted to exercise his power. Mr. R. quietly got into the wagon, and came home. Our neighbor was indignant, and wanted to take the tree anyhow. The children were dreadfully disappointed, and so was I. The man is an old bachelor, and an *infidel.* Do you suppose the latter circumstance influenced him to act as he did?

We have just lost a valuable horse, our only one, and sickness and other troubles incident to new comers in a new country have made the year a hard one with us. We enjoy your Home Papers, and wish you may live long to continue them. I wish I lived near Medina, or in Medina, so as to get work from you. I wish you every success in your business. Daisy and George, the children, are anxious for me to keep bees, so they can write and get a book.

MRS. V. A. REDDING.

Stanton, Fla., July 26, 1884.

I am sorry to hear, my friend, that you had trouble with the owner of the tree; but it seems to me that you did very wrong in going to work without first consulting him. I should hope that the fact of your neighbor being a bachelor and an infidel would not make him uncourteous with his neighbors. Of course, we who profess to be Christians claim to love our neighbors better than those who make no profession; but the great point is, to let our lives prove it, rather than any profession we may make in words. I am sorry for your troubles, and I fear it may be some time before you get much of an income from bee-keeping. There are a great many people here in Medina wanting a place to work in our factory, but yet there is no room now. If you will excuse me, my friend, I do not think it makes so very much difference *where* we are as *what* we are. My respects to George and Daisy. Tell them if they will write me a letter I will send them a book, even if they are not as yet bee-keepers. May be you have made arrangements so as to get the bees out of that tree by this time.

STOPPING RUNAWAY SWARMS.

ALSO SOME REMARKS IN REGARD TO THE USE OF BUZZ-SAWS IN HIVE-MAKING.

A FEW weeks ago we had a large swarm issue, which settled on a small maple. I hived them, or supposed I had, and went to dinner. On going out after dinner I noticed a greater part of them on outside of hive. I began carefully scraping them down to make them go in, when they began to take wing, and I knew immediately what they intended to do by the loud hollow roar. I made quick steps for the bee-hive tent, clapped it over the hive, and said to those inside, "Stop a leetle!" I carried them to the honey-house, turned up the tent, and they were on the window. As luck would have it, the queen was in the tent, although the greater part of the swarm had got in the air. They started right off, went about ¼ of a mile, found they had no queen, and returned and entered the hive they first came from. I hived the prisoners by themselves, and neither part tried running away again.

We haven't had any honey all summer, only enough to keep brood-rearing going; but the last few days they have been doing first rate.

HOW TO STOP BLEEDING.

Can any one tell a sure way to stop bleeding, without going to a physician? I cut one of my fingers off with a buzz-saw a few days ago, and had considerable trouble in getting the blood stopped. It bled steadily for eight hours.

A. B. OSBUN.

Spring Bluff, Wis., July 28, 1884.

Friend O., the idea has been advanced, I believe, of stopping swarms with a bee-hive tent. If you can get it on the spot and on the hive quick enough, it is certainly a sure thing, and no mistake.—In regard to stopping blood, if it were a finger cut, I should wind a string around the finger until it is stopped, or until a physician can be called. Where the wound is such that it can not be tied up, I think binding linen cloths, or cloths of any kind over the wound, will hold it until nature can arrest it. Will some of our M. D.'s straighten us up on this point, if we are wrong? Look out for buzz-saws, friends. We recently had another sad accident in our factory. One of our men went to get a drink, and on his way back stopped to talk with one of the hands. While he was talking, he thoughtlessly stuck his hand on to a wabbling saw, where we were making bee-feeders, and had it horribly mangled, as a matter of course. Once more, look out for buzz-saws. They do not often show much mercy when you push your hands against them.

LETTER FROM OUR FRIEND FRANK BENTON.

SENDING QUEENS BY MAIL, AND SOMETHING ABOUT THE CARNIOLANS.

OUR friend S. W. Morrison, of Oxford, Pa., has kindly given us permission to publish the following letter from friend Benton:

Your card of June 30th was received this morning. The following are the present prices for Carniolan and Italian queens, reared in their respective countries:

I. Finest select queens, each, July and Aug., $5.00; after Sept. 1, $4.50.

II. Fine queens, each, July and Aug., $4.50; after Sept. 1, $4.00.

On 6 queens, 5 per cent discount; 10 queens, 10 per cent discount; 20 queens, 12 per cent discount; 40 queens, 15 per cent. Expressage prepaid *to* New York City, if sent by express. As long as the weather permits, queens will be sent by mail direct to the postoffice of the purchaser, the postage being prepaid in all cases. Since my advertisement in GLEANINGS for Aug., 1883, the German government has made a regulation requiring *letter* rates on all live bees sent in the mail-bags. At the low rates I was furnishing the finest queens to be had, I could not expect to pay expenses, and have letter rates on all queens to pay—the first sent out, and any subsequent shipments to make good losses, should such occur; so, rather than reduce the grade of queens sent out, I raised the price slightly, and offered two grades.

For the finest selected queens I am paying Italian and Carniolan bee-keepers exactly *double* the usual price for good queens, and I have visited the various apiaries from which my queens come, and shall continue to do so from time to time as long as I shall see fit to continue sending out queens from here, selecting at each visit the finest stock I can get.

When queens are sent by express, the shipping agents in New York (who are not bee-keepers, and never open the boxes) have, for clearing them from the custom-house, and re-shipping them, a charge of a dollar or so on each packet (which may include, say, 4 queens), or about $1.50 to $2.00 on six to ten queens. There is no *duty* on bees. Expressage from New York City is, of course, at cost of purchaser.

No one, so far as I know, ever claimed that Carniolans had three yellow bands. Sometimes, (though not always) the first ring of the abdomen is reddish-yellow colored. The whole length of the abdomen is, however, furnished with silvery-gray bands of thick-set fuzz, and the whole body of the workers, as well as the drones' bodies in particular, have a silvery-gray color. FRANK BENTON.

Munich, Germany, July 14, 1884.

In regard to getting queens by express, our experience has been that the express charges and various other expenses amount to not less than ten or twelve dollars on any shipment; and on forty or fifty queens, not less than twenty-five to thirty dollars. I should think that sending them by mail would be very much the cheapest way, if we can have the same success in getting them through alive that we have by express.—The above letter is somewhat of the nature of an advertisement, I know; but as it was not written for GLEANINGS, and contains matter of general interest, I have thought best to give it.—I confess, not having seen the Carniolan bees, I did not know until now but that they were yellow-banded, like the Italians. One reason why I have not ordered the Carniolans is because the number of races we have already begins to create a confusion that it seems to me should be avoided if possible. When it is settled that the Carniolans have some clear and decided advantages, we shall be glad to adopt them.

THE ADVANTAGE OF CHERISHING A SPIRIT OF THANKFULNESS.

ALSO SOMETHING ABOUT FERTILE WORKERS.

FRIEND ROOT:—Do you sometimes feel that you need encouragement in your efforts in helping humanity? You have been a help to me by your serious, cheerful words which I love to read, in A B C and GLEANINGS. Yes, it came quite natural to me yesterday evening, when walking through my cotton-field, to kneel down amid the luxuriant growth, and thank God for giving us such good seasons, and I could not help but think of you, kneeling in that busy factory, and asking God's guidance. I thought, also, of the cheering words in last GLEANINGS, about good crops, and it being such pleasure to tend *rich* ground, "to pick peas when a few would fill a basket," etc.

I'm a novice in bee culture; just started last year with movable-frame hives. So far the losses have balanced the profits, or more, I think; but I am in no way discouraged, for I see brighter prospects ahead, through resolved, better attention. A swarm of bees—about two quarts—was found in the woods some time ago near here, that had started comb on the sapling around which they were clustered, and on listening close we could plainly hear a piping sound as of a queen, and we were sure they had a queen, we thought; but imagine our surprise when, looking in the cells of the comb, we found them crowded with eggs. The thought forced itself in my mind that the queen did not have room enough, and had to go to laying; but we could not find a queen after hiving them and looking carefully. We gave them in a few days some comb from another hive, with a little brood in it; but subsequent examination showed the cells still overtaxed with eggs. The bees would not work nor build comb—no, not even after having given them bees and brood; but finally they got a queen-cell started after what was to me a strange occurrence. One day, watching a cluster of bees at the entrance of the hive, on the alighting-board, I heard again the piping sound that I thought only a queen could make; and on close examination I discovered, to all appearances, a common bee running all over the rest, and, doubling up its body, would make that queer little sound. Of course, I killed the "fertile worker," but had another to kill a day or two after, under the same circumstances. I then gave them the young brood with bees, and in a few days I had the satisfaction of seeing a queen-cell. But, poor me! the worms run them away. C. L. EADDY.

Johnsonville, S. C., July 25, 1884.

Friend E., your plan of getting rid of a fertile worker is exactly what I have recommended, but I should take the frames of comb from the hive, and hunt out the fertile worker as she moves about among the bees. Her actions are just as you represent, but she does not always make the piping noise you describe. Wherever you see a great number of eggs in the cells, and no regular cells of brood, you may be sure a fertile worker is the trouble.

SOME CALIFORNIA NOTES.

WHAT IS IT ON COMB HONEY?

A TINY insect, found on the sections of comb honey, when they are taken off the hive; wingless, transparent, colorless, except the eyes, which are black, and a reddish spot in head between the antennæ; barely visible to the naked eye, it can be seen as it moves swiftly over the section, as the light is reflected from it, as from a tiny drop of water. In repose it would not be noticed at all, as, being transparent, it then appears as a mere atom of the wood. Antennæ are long in proportion to the size of body. It seems to stay on the outside of section; nearly always in quick motion; sometimes single, at other times two or three together; can be blown off with a light breath; nearly every section has them on. Who can tell what it is?

BRUSH FOR COMB-FOUNDATION MACHINE.

That was an excellent idea of Mr. Enas', to fasten a long brush against the upper roller of the foundation machine. I had been using a hair-brush, moving it over the roller, while giving the crank half a dozen or more turns with the other hand, previous to passing each sheet through. As soon as I read Mr. Enas' suggestion, I cut the handle off and sawed the brush in two lengthwise through the middle of the back, nailed the two pieces end for end to a ½ x 1-inch strip of wood, a little shorter than the distance between the uprights of the machine, and fastened it there with a little wedge, pushed in with the fingers. The brush should be taken out and the starch washed off, every time it is used. I have now only to give the rollers one revolution, while moving the sheet toward them. This saves considerable time, and I am highly pleased with the improvement. Mr. Enas has my thanks for his valuable suggestion.

PYRETHRUM VS. ANTS.

Like others, I am troubled this year with the little black ants in the honey-room. By putting fine sifted wood ashes on the floor, round the legs of the extractor, tanks, or where anything else containing honey rests, the ants can be kept away, as they will not cross the ashes. A still better way is to fill old tin cans half full of ashes, and place the legs of tables or stands in them. The cans prevent the ashes from being scattered about. Water is unsatisfactory. If there is only a little, the ants will drink up what does not evaporate. If there is plenty, it will, unless renewed every day, form a film, over which the antscan travel. However, I used water on a shelf, on which was placed a can to catch the drip from the sun strainer, in which I melt my cappings. As the shelf was near a door, and on a level with the top of my uncapping-box, I could not very well use ashes there. The ants were thick on the shelf and around the water. Last night I read your suggestion in regard to pyrethrum. I went immediately and scattered some on the shelf and around the water. This morning the ants at the water are dead, and not a live one near the shelf. Tell friend J. M. Brooks to try sprinkling pyrethrum all over his shelves, then cover them with paper, to prevent the pyrethrum from being blown or wiped off. I think that will stop his trouble. WM. MUTH-RASMUSSEN.

Independence, Cal., July 22, 1884.

I have often seen the tiny insect you have described, friend M., and perhaps Prof. Cook will be able to tell us exactly what it is, from your description. I think pyrethrum will be our best remedy for ants, if it works all right.

BEES, POLITICS, AND FIRE.

A TIMELY WARNING TO BEE-KEEPERS FOR THE COMING POLITICAL CAMPAIGN.

YOU see, the upper story of my chaff hive was only partly filled with wide frames, and the bees had crowded into this vacant space; so, wishing to drive them out, I lighted a roll of rags, placed it in this space, put on the cover, intending to let it remain only a minute or so, and then attend to it; but at this time the band, followed by a crowd of citizens, passed me, going to the depot to give Gen. Logan a blowout, who was on his way from Minneapolis. So, like a fool, I followed the crowd, saw Logan, etc. (you know how 'tis yourself), came home sober, went to bed, and was sleeping the sleep of the just (?) when the fire-bell sounded an alarm, and down came the company with the "masheen" to put out the fire in my chaff-hive. It was about four hours from the time I lighted my smoker before the alarm; meantime, the smoke had driven all the bees out, and they were scattered about in clusters on the ground. I removed the *lamented* remains of the old hive, prepared a new one with fdn. as for a new swarm, except feeling sorry for them in their misfortune. I gave them four frames of honey, placed the whole where the old hive had stood, and in the morning they had taken possession of their new habitation, seemingly rejoiced that they had a master possessed of so much intelligence, and that matters were no worse.

The fool-killer has not made his annual trip through this section, hence this mishap. Don't give my address, or any part of it, but call me CATO.

Well told, friend C.; and while it is well to be alive to the interests of our country, we want to look out that our enthusiasm does not run away with our business on hand, even if some of the "big guns" do pass along the street, attended by a band of music.

BEE BOTANY,

OR, HONEY-PLANTS TO BE NAMED.

BUFFALO CLOVER—TRIFOLIUM STOLONIFERUM.

I SEND you a specimen of clover for naming. It is of a wild variety, growing in woods and old fields; has never been cultivated here; comes in bloom last of April; grows on rich or poor land; produces a great deal of bloom and seed; each bunch sends out a lot of runners; takes root at every joint; vines grow from one to four feet; bees gather considerable honey from it. I have gathered enough seed to sow an acre for bee pasture.

This has been a good honey season, but has now closed. I am a beginner in the bee business; wintered 22 out of 26; some very weak, all in Langstroth hives. I have got from 6 to 200 lbs. comb honey per colony. JAMES M. DENHAM.

Valley, Lewis Co., Ky., July 18, 1884.

Concerning this plant, Prof. Devol says:

Specimen from James M. Denham is the running buffalo clover (*Trifolium stoloniferum*, Muhl.), a plant I have often heard spoken of as very good for bee pasture. It is found in fields and woods in Ohio, and west and southwest; it seems to prefer rather shaded situations and a moderately rich soil. It sends out several branches from the roots, which root at the joints and send up branches 3 to 6 inches, with one or two loose heads of blossoms about one inch across; the flowers are larger than those of the common white clover, creamy white, with pink or rose pencilings. The flowers are persistent, turning brown, and all becoming reflexed in fruit. It can scarcely be as valuable for honey as the common white or Dutch clover (*T. repens*, L.), as it does not bloom quite so freely, and only from the last of April through June. I have never heard of its being cultivated. W. S. DEVOL, Botanist.

WILLIAM R. LAZENBY, Director.

Columbus, O., July 24, 1884.

If I am correct, this clover has never been described before. The specimen sent looks like rank coarse clover. Unless the plant is valuable for forage and hay, I should hardly think it would pay to raise it. Notwithstanding, friend D., we are glad to hear of your experiment.

BUCKTHORN.

The yellow wood I sent you in full bloom is a shrubby bush, and grows in dense thickets. When the brush stands alone it is very shrubby; and in one or two years after it begins to bear, there is a cluster of young bushes all round. They come from the seed. It grows about twenty feet high, and never exceeds five or six inches in diameter. The bark resembles in color that of young wild cherry. It is very thin and tender; the leaf looks like the wild cherry. It is broader, and has a less number of ribs. The berry, also, when ripe, resembles the cherry. The bloom is a little shallow and yellow, and more of them than I ever saw on any other plant. It commences to bloom about the time the poplar ceases, which is about the first of June in this climate, and continues until basswood commences, which is about three weeks later than poplar. It has no main root running straight into the ground; the side roots are shallow. I have known bushes ten feet high pulled up by the roots. The yellow wood grows in a strong lime soil, side by side with the poplar and basswood. I have never known it to fail to produce some honey, and some seasons a great deal. The honey is bright, something between poplar and basswood; but the taste is not so good as either. Two or three years ago I sent you a barrel of honey which I thought was basswood honey, but you said not. I now think it was yellow wood. I have a lot of this honey on hand; and if you desire to see what is, I will send you a sample.

Elora, Tenn., July 15, 1884. J. A. SMITH.

Prof. Devol says further:

The specimen of plant from J. A. Smith is a species of buckthorn, the Southern, or Carolina buckthorn (*Rhamnus Carolinensis*, Walt.). It is a Southern shrub, or small tree, your correspondent living near its northern limit. To the description given by your correspondent, I would add: It is found largely along the rivers, and blooms in May further south. The leaves are 3 to 5 inches long, ⅓ to ½ as wide, shining, veins prominent. The flowers are yellowish white, borne in short axilary umbels, 3 to 9 in each umbel. The petals are very small, 5 with the stamens opposite. The berries are purple when ripe. Its near relative, the common, or purging buckthorn (*R. catharticus*, L.), is used as a hedge plant, and from the berries and bark are procured purgatives and dyes; but I know of no use to which this species can be put, unless it be as honey-plant; and, judging from your correspondent's letter, it is quite valuable as such. W. S. DEVOL, Botanist.

Columbus, Ohio, July 21, 1884.

The honey alluded to was about as light colored as basswood or clover, and the flavor pretty nearly resembles clover, although as a general thing I think it could hardly be considered equal to clover, in flavor or color.

THE SWARMING MANIA.

IS IT THE STRAIN OF BEES, OR THE SEASON?

AFTER reading your comments, friend Root, on Mr. V. P. Dupuy's article, on page 445, July GLEANINGS, I was almost inclined to think that you are given to "jumping at conclusions;" for apiarists of long experience believe that excessive swarming comes only with certain conditions, and when these conditions are present we find excessive swarming is the result; when not present, there is no more than the usual amount of swarming. The conditions requisite to excessive swarming are a warm favorable spring with a warm wet summer, thus giving just enough honey to keep brood-rearing at its best, and still not give enough so the bees store any great quantity, so as to diminish the brood. The conditions which tend to keep swarming in check are a copious yield of honey early in the season, or a season so adverse that the bees are compelled to retrench brood-rearing, in order to keep alive. With the first, comes moderate swarming; with the last, very few if any swarms. With such a very poor season as the last, I find the Italian and Cyprian bees will get more honey, and swarm more, than the hybrids or blacks, while in an extra good season they swarm less. When the season is favorable to excessive swarming, the different races of bees are affected about alike; but all my experience goes to prove that no particular strain or variety of bees is given to a predisposition to swarm, more than any others, when viewing the matter as a whole, and covering a period of 16 years. For instance, in 1871 and '72 I had a certain strain that gave many swarms each year; and as I was anxious at that time for increase, I was pleased with this strain of bees, and bred largely from them; but during the next two years this strain of bees swarmed but very little, and my increase was solely from my hybrid colonies, as 1873 and '74 were good honey years compared with '71 and '72.

Again in 1876 I was nearly disgusted with swarming, having nearly 350 swarms from 67 or 68 colonies in the spring. Every thing swarmed and re-swarmed, till I was glad to have the season come to a close. Prime swarms sent out three or more young swarms; second swarms divided up, three-frame nuclei swarmed, and some nuclei swarmed without a queen, so that from 5 to 10 swarms all in one batch, was no uncommon thing, while one day only 11 clustered in a hedge fence all together, much to my annoyance. But with 1877, *with the same bees*, and nearly the same number of colonies, I had *few* swarms, and secured the large yield of upward of 11,000 lbs. of honey, nearly all of which was comb honey. Since 1876 I have not had excessive swarming in my apiary, yet I still retain the same strain of bees to a large extent, which I then had. If Mr. Dupuy is right, and if we should "*call it an inherited mania*," can you tell us why this excessive swarming has not been kept up in my apiary?

Once more: Last year I had one queen which led out three prime swarms, completely filling her hive with bees and brood each time before they swarmed (a thing which never happened with me before); and from the reasoning of Mr. Dupuy they should have swarmed excessively this year, yet not a single swarm has issued from either of the five hives containing this queen, or the four young ones reared from her. The success or failure of all things pertaining to bee culture depends largely upon the season and surrounding influences; and the sooner we realize this fact, the sooner we shall have greater charity for those who do not agree with us, and have a broader view of the possibilities of apiculture.

Again, to form a correct conclusion we need an experience covering a term of years, for no two years are alike. What will work well one year, and in one locality, will not hold good in another; and I find more and more, each year, that I need a broader charity, so that I shall do no injustice to others who differ with me. The only remedy I know of for swarming, excessive or otherwise, is the free use of the extractor, and they who expect to work for comb honey, and not have swarms, will sooner or later be disappointed. In swarming, the bees but carry out the instinct implanted in them by Him who said, "Multiply and replenish the earth," and I firmly believe that a judicious increase by natural swarming will secure to us the best results in comb honey. In the above I simply give my opinions, based upon practical experience, according to all the same rights which I enjoy. G. M. DOOLITTLE.

Borodino, N. Y., July 31, 1884.

Friend D., there is one satisfaction, even if we do seem to jump a little hastily at a conclusion, and that is, that you will probably pull us back to about the right spot by taking up the facts that are against us. As you put it, I confess it looks a little that way; but I hardly believe our friends will bear you out in your strong assertion, that one race of bees swarms about as much as another. I know, at first the Italians were objected to on account of their excessive swarming; but pretty soon we settled down to the idea that they swarmed more because they gathered more honey; and I believe some have objected to the Holy-Lands and Cyprians because they swarm so much more than the Italians. Now, I hope it is true they do not, and I should be glad if it were not a fact that some strains of bees swarm more than others. I suppose you would decide that, when friend Dupuy thought he had succeeded in getting a strain that wouldn't swarm, it was because the seasons after that one where they swarmed so much were unfavorable to excessive swarming. Well, friends, the matter is now before you. Who is right about it?

HOW BRO. ANSELM WAS CURED OF SMOKING.

IS SMOKING A GENTLEMANLY ACT?

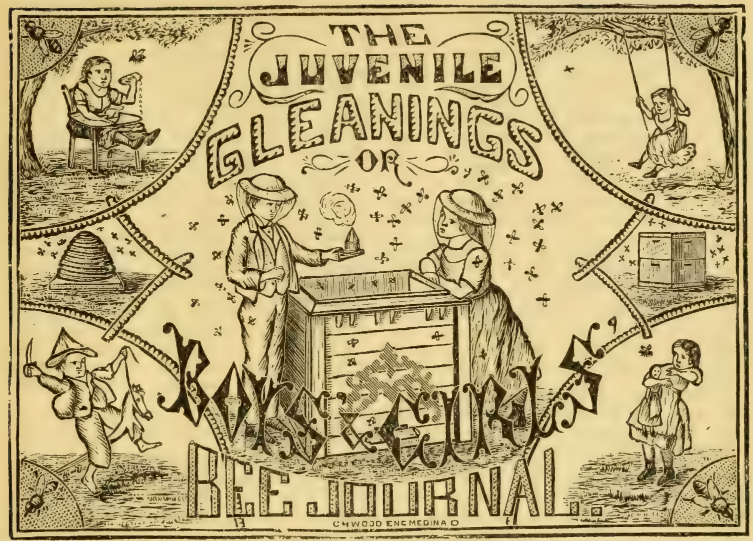
A FEW days ago I met neighbor Bathgate, when he told me he had seen a man do a remarkable thing the day before; he saw a man make an artificial swarm of bees. I remarked to him, if he subscribed to GLEANINGS, or procured the A B C, he would soon be able to perform this remarkable feat himself. He at once handed me the dollar for the latter. I met the same gentleman with a stump of a cigar. I inquired, "Do you smoke?" He acknowledged he did, sometimes, and wanted to know if I did. I told him I smoked a few times when I was between 14 and 15 years of age, and I also told him what cured me of it. It was something like this: I happened to go to a picnic on the 4th of July, in a train. After the train had started, nearly all the gentlemen (?) left their seats and went into another car. I followed, and came into the smoking-car. There was such a smoke you could hardly tell one man from another, and so crowded there was hardly standing room. I looked on for a moment, quite bewildered; there were lawyers, doctors, Congressmen, drunkards, and clergymen, all pell-mell, huddled together. Loud talk, and cursing and swearing were almost the only things that could be heard. I commenced to reason with myself, why these gentlemen went to this car. I had not to wait long; they all commenced to smoke. I came to the conclusion they were not gentlemen, only when in their society. A true gentleman is a gentleman everywhere. These men loved smoking, more than their children and wives, whom they left and went to such company. Gentlemen don't smoke.

Mr. Bathgate said I might fine him one dollar every time I saw him smoke after that.

I have read GLEANINGS for several years, and am delighted to see you take such a stand against the use of tobacco. BRO. ANSELM.

Ilchester, Md., July 7, 1884.

Brother A., if I understand you correctly, it was a great many years ago that the incident you narrate happened. Well, nowadays I do not think you would find many ministers in the smoking-car; or, at least, if you did, they would be in there for the purpose of reproving profanity.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

WHO IS MY NEIGHBOR? — LUKE 10. 29.

WELL, little friends, I have been enjoying myself for a few weeks back wonderfully; in fact, I sometimes feel almost guilty to feel that I have had so much enjoyment. I have been afraid, almost, that I did not deserve it, and that perhaps it was not quite right. Do you want to know how? Well, it came about by finding some new neighbors—or, at least, some that I had not seen for a great many years. They are small folks, these neighbors of mine, but I think they will get larger within the next year. They are just as cute and pretty as they can be, and they always stay outdoors; in fact, I do not believe they ever live in houses at all. May be they do, however; but *I* have never seen them in houses. During the rush of business in the past few months, I got very tired, and almost worn out, and a good many of the friends suggested that I should have a vacation, and they spoke about traveling, and going to see some of the sights of the world, or the great cities. But I told my wife I would rather have leisure to play with these little neighbors, than to go anywhere in the world. I told her that I might waste some money with them, and may be they would never pay it back—that is, in dollars and cents; but for all that, I believed it would be a good investment, and very likely it would not take as much money all together as it would to go on some big excursion. Now do you want to know who these neighbors are? Well, I will tell you what they are; but, don't laugh. They are just strawberry plants. Last fall I felt a longing for a nice strawberry bed, and so I had one made. The boys who made it, though, did not love strawberries particularly, I guess, and they did not get the hang of it; besides, we did not get at it until it was too late. After it was all made, I had it covered with straw, you know, the way they usually do. Well, in my ignorance I used rye straw; and as there was a good deal of grain left in the heads, this spring I had a beautiful field of rye—a small field, however. We made the ground rich with manure; and when the roots of the rye got down under the straw, and found the ground enriched with the contents of the poultry-house, etc., the rye just reveled, and I made a splendid success of it. A few days ago the thrashers were across the road at Neighbor H.'s, and I carried over my rye, and got a whole bushel and a half of great nice plump grains. Well, I told my wife that I was not going to be "licked" on trying to raise strawberries, and I looked over to my poor forlorn bed, where occasionally a strawberry leaf could be seen among the rye stubble. When Henry, the gardener, came (you see, we have got a gardener), I told him I wanted my strawberry bed fixed up nice. He just laughed, almost, and said the nicest way would be to take the plow and turn it all t'other side up.

About this time, Peter Henderson sent me a catalogue of plants and such like. You see, Peter Henderson is one of the largest market gardeners in the world; or, at least, he is a very large one any way; and besides, he always tells everybody who wants to know, how to do every thing. Well, he said in his circular that he had adopted a new way of raising strawberries. They don't have any old hard beds at all, so full of weeds, and the ground so hard that it is more work to pull the weeds out than to plow up an acre of ground. The new way is to raise strawberries just as you do cabbages—get a crop, and have it done with, and then have your next bed somewhere else, and so on. I sent and got the little book I told you of in the July number, "Garden and Farm Topics," and this book told me just how to do it.

I wonder how many of the friends know about strawberries. These, like all other plants, seem to have a great fondness for perpetuating their species. First they bear a crop of fruit, and the fruit contains seeds. These seeds, if planted, will produce little strawberry plants. But this is not all. After the mother-plant has borne a nice crop of fruit, as if she were not satisfied with that effort, she just shoots out little runners. Did you ever see a strawberry runner? If you never have, suppose you take a look at one. If you do not have any at your house, very likely you will find some at the neighbors'. After the runner has gone out and started (and they grow very rapidly, I tell you), a little bud, or knot, is formed, and from this some bright green leaves shoot out. Huber and I call them baby-leaves. Well, after the leaf has come out, the little bud settles down against the ground, and then a delicate little white rootlet, almost as pretty as a baby's foot (after he has pulled his shoe and stocking off) pushes itself out and begins to feel around in the ground. What do you suppose it does that for? Why, it is nosing about for something to eat. When it finds it, more little roots come out, and pretty soon it gets so strongly braced and rooted that it lets go of its mamma, and becomes a plant itself. After I had read Peter Henderson's wonderful story about it, I went out into the garden where Henry was at work, and commenced:

"Henry, do you know any thing about raising strawberry plants in pots?"

"To be sure; have raised thousands."

And he kept right on with his spading, without saying any thing more.

"Well, Henry, is there time to do it now?"

"Just the time exactly; but, where are your runners?"

I told him I had seen a few out among the rye stubble, but he thought it would not pay to bother with them.

"But, Henry, we are not caring to make money just now exactly, and we should like to see it done with those poor plants out there, even if it does not pay."

He suggested that he might dig around them, and give them some bone dust, and may be we could get some good plants, if I wanted to see it done. So we went to work. We had a few little pots in the greenhouse, about three inches across. We took these and got some rich black dirt that the children had brought from the woods for their flower-garden. Some bone dust was stirred thoroughly through this black dirt, and then the little pots were filled up to the brim. In looking over the rye-stubble patch we found more plants than we expected. The season was terribly dry, and every thing was parched up. But it was funny to see an old strawberry plant, with hardly a breath of life in it, all dried and shriveled up, giving its life energies to keep some little bit of a plant bright and green, that stood perhaps a foot away among the weeds. A little slender thread of a runner reached back to the mother-plant, and there she was, giving her life-blood to keep her offspring alive and growing. I called mamma and the children to look at it, and then laughingly suggested that that was a good deal the way mamma was wearing herself out to take care of us children. We called Huber the strawberry plant, and mamma the old root. Come to think of it, there is a pair of "old Roots," and I believe both of us take as much pleasure in seeing baby Huber grow and thrive as does that poor old mother strawberry plant in seeing her offspring make a good stout healthy plant. I wonder if children often think of trying to repay the sacrifices and privations their parents make for their sakes.

In our next Sabbath-school lesson we have a text that is something like this:

> Honor thy father and thy mother; that thy days may be long upon the land which the Lord thy God giveth thee.—Ex. 20: 12.

Henry fixed the plants, quite a lot of them. He buried the pots in the ground clear up to their brims, and took one of these little runners and set a little plant in the center of the pot. To keep it in place he laid a little stone on the runner to keep it down. Of course, I had to fix some too, but I thought it was too much trouble to hunt for stones, and so I took hard lumps of dirt. When a rain came, however, my lumps of dirt washed to pieces, and the wind blew my little plants out of place, so I thought I would do as Henry did next time, even if I couldn't see the reason for it.

It was a good while before we had any rain, so we watered the little plants, and their mammas too, for several days. Some of the mother-plants furnished runners for half a dozen or more pots, and they looked comical enough with their children clustered all around them. Under the influence of the bone dust and the watering, they soon began to show beautiful little new green leaves, that somehow have seemed to rest me just to look at them. I have been working among them, loosening the ground, and pulling out the weeds, and handling the foliage, the last thing at night before I go to bed, and then again I am with them in the morning before the sun is up. Now, it would very likely have been cheaper in one sense of the word to have bought plants already potted; but some way I always enjoyed taking care of what I had already, instead of allowing it to go to waste, a great deal better than buying things new. Some of the little plants that we started first have filled their pots with roots, and the roots are growing out of the pots and going down into the ground. These are now ready to be cut loose from the parent plant, if we wanted to do so; and there you have a nice little strong thrifty strawberry plant that you can carry anywhere you wish, or plant anywhere you choose, and no danger of its dying in transplanting, even if the weather is dry. Any of the little friends can work with strawberries in this way, if they should take a notion to. You know it is pretty expensive to make a whole garden very rich, especially if we use bone dust, guano, or phosphate; but, a very few cents will pay for the fertilizers we have, sufficient to make a compost to fill these little flower-pots. Some ground, made very rich with fine old stable manure, will do as well, I presume. Your father and mother can very likely find something that will be suitable. The pots can be bought at any florist's for about a cent apiece, or less in quantities. If there are no flower-pots around you, take a section honey-box, and put a cheap bottom on it, or a berry-box would do, although both are pretty large. There is an advantage, however, in having them large; you can get a very large strawberry plant before you set them out. Well, suppose we get lots of nice strawberry plants in these pots or boxes, then what? I will tell you what we are going to do. We are going to wait till the potatoes are dug, and then we will plow the potato ground up just as fine and nice as it can be. After this we are going to cover it three inches deep with the best stable manure we can find; after this it is to be plowed and harrowed again, until it is nice and deep and rich. Now, then, we turn out the strawberry plants, dirt and all, into this rich ground, and just make them "climb." If the ground is dry, we water them; and if they do not put in and grow to suit us, water them with guano water, or something of that sort—make them just boom. When the ground begins to freeze, cover them with straw. Do not use straw that has rye in it. Get oat straw, and the winter will kill all the grain. Keep them growing right under the straw as long as they will; and in the spring, when they are ready to grow again, just push the oat straw a little to one side, so they can peep out, and they will commence where they left off, and go along growing in the spring. When the berries get ripe they will just lop over and lie on the clean straw, ready to be picked. They will be literally *straw* berries. Peter Henderson says they get a quart of berries to a plant when they are properly cared for in this way.

Do you know what I said about so many wanting something to do? Now, friends, suppose a great lot of us should go to raising strawberries. Did you ever see a time when nice good strawberries, raised on a plan like the above, would not sell at a good big price, right in your neighborhood? If it should be too late in your locality to start plants from the runners, you can buy nice potted plants of almost any florist or nurseryman. But I think it is very much better to raise them yourselves; and you can get very nice plants this fall, even if it is a little late, if you set right about it. Perhaps they won't bear a full crop next year; but even if they don't, you will have the fun of learning how, and I am sure you will be as happy about it as I have been; for God seems to have special blessings reserved for those who love the plants and animals he has given us.

What a wonderful thing is vegetable life! We have just got some corn coming up that we planted to furnish pollen for the bees. To hurry it along I have been giving it a little sprinkling of guano—or, at least, I have tried a few hills that way for an experiment. The other morning I moved a lump of dirt away from a little spear of corn. Under the lump of dirt I saw a great number of these little white rootlets spread out like a brush, almost, with little mouths greedily taking in the food and guano I had furnished them. What a wonderful energy seems locked up in one little grain of corn, or the little plant on a strawberry runner! How hard they do work to get a start in life, and perchance to live and grow! I love them, because they are God's children; and as I hope that I, too, am one of his children, we are neighbors, are we not? And by the way, little friends, does not the same rule make you and me neighbors? Now, when you write your little letters, please remember that Uncle Amos will be eager to read any thing you may have to tell him about potted strawberries.

THE MINISTER'S BEES,

AND THE PREDICAMENT LOANNIE AND HER FATHER FOUND THEM IN.

UNCLE AMOS:—I will take the liberty of calling you "uncle," as we hold you in the highest esteem, and think you act the good part of uncle with all those you have intercourse with. I thank you for the interesting little book you sent me for the poor effort I made in writing you a letter, and also for your kindness to pa, who has been sick all spring, but is now able to resume work, as well as ever, and you may look for a letter from him soon. One of the greatest lights in our home is GLEANINGS.

We had a jolly time yesterday at a good man's expense. I will tell you how it was. The Rev. A. L. Ames, living on the opposite side of our town, came early in the morning with his team to get pa and his extractor to go and extract his honey. He said his hives were running over with honey. Pa opened his eyes wide, and thought the good man must have awful good bees, so much better than his own. I got a chance to go with pa to assist him.

When we got there we found four big Zimmerman box hives, with capacity for 21 Langstroth frames, with not over 15 frames on an average to the hive, and those in the greatest chaos it is possible to imagine, 3 and 5 combs hanging to a frame. Pa never saw bees and comb in such a horrible mix before; but the hives were running over with bees, but not a drop of honey to spare. We were entirely unprepared for transferring, or any thing like the job we had before us then; but we went to work with a will, without proper tools, and after a hard day's work in the hot sun we left them in beautiful shape for the harvest of white clover, which is now before them. We got home at dark, very tired, but all happy, and feeling as if we had done a good deed. Pa laughed at the good man, and told him he would not charge him any thing for the use of his Novice extractor for *that* day, but just for our work, and advised him to spend a dollar, and take GLEANINGS, and it would save him many dollars and much trouble. He said he always kept bees; he loved the little pets, but had never got much honey, or realized any profits. Pa told him from the same number of hives, 4, last year, he got two barrels of delicious honey, and increased his bees to 10 hives; sold one barrel of honey on an average for 12½c per lb., and two swarms of bees for $10.00; bought 5 swarms more for $5.00 each; lost 2; have 11 swarms now; but, pa takes GLEANINGS, and that is the difference. **LOANNIE FISHER.**

Napoleon, O., June 13, 1884.

Very good, Loanna, I am glad to know that you and papa knew just what to do, and were not afraid to go right to work and do it. I should think your papa must be real well by this time, from the account of the work you did.

CUTTING A BEE-TREE.

OUR FRIEND MAHALA B. CHADDOCK TELLS US EXACTLY HOW IT WAS DONE.

"PAPTH agoin to cut the bee-tree, and he wanth you to come," said little Kinney Phillips one morning last week, as he peeped through the screen-door at me. I told him that I had a bad cold, and could not go; but in a few minutes, "papth" came to see about it himself.

Irving and Johnnie Phillips had found a bee-tree a few days before, and, as it was on our land, Brother Phillips offered to cut the tree and give us the honey, while he would keep the bees; but as he had never handled bees much, he wanted me to go along to put the bees in the hive.

He said he would send the buggy for me, and we were soon on the way. The buggy was a veritable "one-hoss shay," and I climbed in, and took Harry, and I told all the other children to walk behind and pick up the pieces.

Arrived at Brother Phillips's, we changed horses; i. e., they took the gray horse from the "one-hoss shay" and put it and another to the big farm wagon that had the hay-ladders on, and we all got on—Mrs. Phillips and her five children, I with my four, and away we went, over hill and dale. Brother Phillips had gone on with the ax.

The bees were in a giant oak, and Bro. Phillips drew many a long breath before it fell to the earth.

The children, who had been hiding behind brush-heaps and tree-trunks, now came forth; but the bees soon scattered them again, and Johnnie Phillips said, "I'll tell you what, boys, there's more real fun in cutting a bee-tree than in a Fourth of July; I"—just then an angry bee stung him on the cheek, and he ran away, crying out, "O mamma! I am stung! look out there, boys! take to the brush, take to the brush, everybody."

While Brother Phillips was chopping a hole to get at the honey, the bees kept flying about him, and he kept shaking his head, and dodging; so I offered him my bee-hat. Now, when I wear a bee-hat I always tie the curtain down with a long shaker-blue calico apron, made to button around the waist; and as I am only a moderate-sized woman, and as Brother Phillips will weigh 300 if he weighs an ounce, the strings would not reach around him, and his wife had to break the strings off her sun-bonnet to eke them out. And a picture he was! Sometimes the ax would catch in the long apron, and Mrs. Phillips would call out, "Don't cut your feet off!" Then the apron would blow straight out in the wind, then hang at half-mast awhile. We laughed till our jaws ached.

When he reached the honey, my work began; and as fast as the children came up I gave them great hunks of it to eat, and little Kinney was standing on a big limb near me, with his hands and mouth full of dripping sweetness when a bee stung him on the little toe. He dropped his under jaw, and the honey rolled out, and with it an *awful howl;* and amid the splutter of words, we made out, "Takth off, papth! take off! ith stingin," and "papth" took it off.

After putting all the good brood-combs into the hives, and the nice white honey in pails, we set the hive over the bees and came home.

The next morning, Brother Phillips came to help us stack wheat; and as soon as the men saw him they made such a racket that I went out to see if a circus were going by, and I did not wonder that they laughed; his upper lip hung clear down over his chin, and when he talked it flopped up and down like shaking a feather bed, and he could smile out of only one eye, and laugh with one side of his face; but he was able to talk. He said, "I went out early this morning to bring the bees home, and Lib fixed me up in a veil, and she made a hole in the veil over my mouth, so that I could get my breath, and I went out there and stirred them up, and they made a bee-line for the hole in that veil. It did seem to me that there were six hundred bees inside, prancing round on my neck and ears. I threw the veil away, and ran half across the wheat-field before they left me. They stung me most everlastingly; but, I'll go out and get them to-night." **MAHALA B. CHADDOCK.**

VICTOR'S DESCRIPTION OF HIS PAPA'S MISHAP.

AND SOMETHING ABOUT MOVING BEES IN WAGONS GENERALLY.

PA has 30 hives of bees. We do not have to winter our bees here. We moved here March 14, 1884. Pa bought most of his bees after he came down here. I will tell you of a scrape he got into when he went to move his bees.

We lived 18 miles from here before we moved. Pa took a mule and cart, and started for here with 8 hives of bees on the cart; but when he got about a mile from there, two of the hives fell out, and pa did not know it until he got about five miles further. When he found it out he got down and took the mule, and went back to look for his bees. When he found them they were bursted open, and so cross that they stung him very badly; but at last he succeeded in getting them up and out of the road, so people could pass. Then he returned to the bees he had left; and when he got there a few of the bees were out of the hives, and he had to kill those that were out of the hives before he could gear his mule to the cart again. When he got here he had six hives, with one smothered.

We consider the holly and persimmon our best trees for honey in this country, but the latter makes our best and favorite honey, and is equal to clover honey. Pa does not either smoke nor chew tobacco, and never has and never will; but he has already bought him a smoker. Pa is not any more afraid of bees than he is of flies. He has not transferred all his bees from the old log hives yet. When is the best time of year to transfer in this climate? E. VICTOR COX, age 13.

Chocowinity, N. C., July 25, 1884.

Thank you, Victor. I should advise your papa to fix his hives a little better before he starts out with another load. It was not very many days ago that Neighbor H. borrowed old Jack and our one-horse wagon to move some bees home he had bought. He knew when he started that he ought to fasten the covers of the chaff hives down; but as Jack is pretty moderate in his movements, he thought he could keep them all safe, without the trouble of fastening them down. They did very well until they got to the railroad track, and the jolt of crossing got one of the hives out of place. Of course, the bees got out and went for neighbor H. Jack backed the wagon down in a hole, and Neighbor H. tried to get him unhitched; but before he got through, one of the chaff hives tumbled out on the ground. Jack broke away from the wagon, and ran home, and Neighbor H. had to hire a man to help him push the wagon home afoot. He said the bees stung him on the hands and face, so many of them, that he just smashed them up on his face, and threw them away by the handful. All this trouble, broken combs and murdered bees, just for the want of a hammer and half a dozen nails for five or ten minutes!—Your question in regard to transferring will be found fully answered in the A B C book, I think.

THE CONVENTION AT FLINT LAST FALL.

Reported by 9-Year-Old Bee-Girl.

ALSO SOME OTHER MATTERS.

AS the State Bee-Keepers' Convention was here, I must tell you something about it. There were lots of bee-keepers here, and they kept meeting day and night. They were talking about wintering bees; some winter in cellar, and some outdoors; some had lost all of their bees, and some not. A man wintered his bees in cellar all right, and after he took them out, all died off. My papa wintered his bees outdoors on the summer stand in his new hives, and lost not a single swarm. There were many talking about wintering. One gentleman said he liked to winter outdoors, but the packing was too much trouble. My papa told him if that was all, he should come and see our packing.

Papa has a little girl nine years old that packs a hive in less than five mintues. I will tell you how I do it. Pa puts on the partition-board, then I take a handful of straw, and wind a piece of cloth around it, then put it on the bottom, then fill the rest with a basket of leaves, and our packing is done. My papa and I packed 88 hives in two evenings by moonlight, after supper.

There was talk about separators; some want them, and some not. We don't use them, and our comb is as straight as can be; and if one is a little crooked or drawn out, I pack them. I wait until I have two of them, then I set an empty box between them, so I can set back every one; and if I carry them to our customers, they pick them out and say, "See how nice and full they be."

There was a great deal of talk about every thing, and one gentleman said we ought to have had meetings three days; but in your report it looks as if nobody said any thing. Pa says Michigan bee-keepers can not be very proud of your report.

The few gentlemen who were in your report came from some other State. You spoke in GLEANINGS about your hall in Ohio. Pa said the hall for the Flint convention was the smallest one they could get. The people could not sit down; some had to stand up; and the table that the exhibition was on, was so crowded, if one stood near, the others could not get around him. Pa wondered why they did not take another hall, as there are plenty of halls in Flint.

Many of the gentlemen who visited our apiary made the remark, "You have a nice lot of bees." We have now 79 swarms in our yard, all alive, sweet and clean. Pa gave me and my brother and sister each a swarm of bees last summer. As the weather was bad, we did not get much honey; but as all was good for winter, we hope to get lots next summer.

One day a swarm came out, and went on a large oak-tree. Our neighbors said, "How will you get them down?" Pa got a high ladder, and sent up my brother, 12 years old. He tied a little saw on one arm, and a long rope on the other, and he climbed up the tree. He took a saw and cut the limb. As we worked at that, another one came out; and as we worked at that, another came out, and they ran together; and as we hived them, my brother said, "Loosen that rope!" At the same time my pa said, "There is another swarm!"

I did not know which I should run to; but after we got them all hived, as my brother was high enough, he tied the rope on a limb, and let the limb down with the bees. Our neighbors wondered why my brother could do it.

Pa heard that many bees around here starved to death. Now, Mr. Root, is that not awful—keeping bees, and all starving to death? You have done a good deal about tobacco; but would it not be good to write a little more about bees starving? Pa believes that it is not wicked or sinful to use tobacco. He doesn't use any tobacco at all, but he honestly believes that it is more sinful to let bees starve. Folks say they have not time to tend to them. Now, Mr. Root, I think here is something for you to tend to. ELLA KOEPPEN.

Flint, Mich., Feb. 6, 1884.

Why, Ella, you are a regular little chatterbox, I should say. Didn't you get out of breath when you wrote that? I shall have to explain to the friends, that perhaps Ella alludes to the convention at Columbus, when she speaks of having it in such a small room, and I guess there is an incidental allusion to the saloon that was just below the convention hall. Now, Ella, I do not think it is so very bad, even if the room *is* small, although if there should happen to be a good many present, it seems a little inconvenient. Our minister once said, that a large prayer-meeting in a small room is a great deal better than a little prayer-meeting in a great big room, and may be the same will hold true in regard to bee conventions. I am glad you succeeded in getting those swarms down all right, and I should think that your pa ought to be thankful that he has got boys and girls so ready to pitch in and help when the bees get him into a tight place. I wonder if you would talk to me as volubly, my little friend Ella, if I should ever come to see you, as you have written the above letter.

JUVENILE·DEPARTMENT

Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock, six different books, as follows: Silver Keys, Sheer Off, The Giant Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

> "A chiel's amang ye takin' notes;
> An' faith, he'll prent it."

I PRESUME, little friends, you have all been so busy during this nice summer weather that you have not had as much time to write letters as you did in the winter; therefore I have used your recent letters all up, and I have been getting down to the bottom of my drawer for juvenile letters, where we have some still remaining that were sent in the winter. That accounts for some of the letters appearing in this number that were written some time ago. I think I won't occupy very much space here, because I took so much room in "My Neighbors" for this month, but I think if you will turn over and read that, you will find it a real good letter—good in two senses of the word: interesting and profitable; for any letter that tells us how to raise things for ourselves, instead of buying them, and how to earn money right at our own homes, is making us richer than we should be if somebody were to *give* us large sums of money.

600 LBS. FROM 30 STANDS OF BEES.

My pa has 30 stands of bees. We have extracted about 600 lbs. of honey. **ALICE GOUGH, age 10.**
Rock Spring, Mo., July 23, 1884.

Not a very big yield, is it, friend Alice? But then, perhaps you have got more by this time.

A SWARM THAT DIDN'T SETTLE.

My brother keeps bees. June 10, a swarm came out and did not settle, but went into a big hollow tree. Do you think they had picked out that tree?

MARY STANTON, age 11.
Hutchinson, Minn., June 12, 1884.

FROM 3 TO 16, AND 400 LBS. OF HONEY, IN THREE YEARS.

Pa bought three stands a year ago last fall, and he went with them all right. He left them outdoors, packed in chaff, and they came out well in the spring. We had three stands from the three. We went to 16, all by natural swarming. Pa says he sold over 400 lbs. of honey, besides what we used in the house. **LINDA MALIST.**
New London, Wis., Feb. 2, 1884.

120 LBS. OF (HONEY-DEW) COMB HONEY.

We have taken off about 120 lbs. of comb honey. Most of it is honey-dew. We have not extracted any honey this year. **FRED A. PEASE, age 11.**
Kingsville, O., July 22, 1884.

THREE SWARMS IN THREE DAYS FROM ONE HIVE.

My pa has got 30 stands of bees; we had three swarms out of one hive in three days. What do you reckon made them swarm so often? My brother-in-law has three stands of bees, and my brother has one. **KATIE GOUGH.**
Rock Spring, Mo., July 23, 1884.

1200 LBS. OF HONEY FROM 35 COLONIES.

My papa keeps 35 colonies of bees. He took 1200 lbs. of section honey; about 200 lbs. of it is dark. Papa thinks a great deal of his bees. I have one stand; it is a very good one.

EDGAR W. HIBBS, age 13.
Sewellsville, O., July 28, 1884.

ANOTHER WORD FOR MOTHERWORT AS A HONEY-PLANT.

My uncle has lots of bees. My uncle Judson says, that if he were going to raise any plants on purpose for honey, he would plant motherwort, and lots of it, for his bees work on it every day, nearly all summer. I come up to see them every summer, and eat some honey; and while I am out here I go to Sunday-school. **MYRTIS E. HYDE.**
Pomfret Landing, Ct., July, 1884.

FROM 1 TO 27.

When my pa began to keep bees he had only one hive of bees; now he has 27. They look like a great many. We have all the honey we can eat. Pa took out about 100 lbs. a short time ago; it makes the bees very angry to have their honey taken from them. I can't very well blame them, after they work so hard to gather it.

CHARLIE W. WHEELOCK, age 10.
Tampico, Ill., July 27, 1884.

DO HUMMING-BIRDS GET HONEY?

I have a flower-bed, and there is a humming-bird flying around the flowers; do you think he gathers honey from the flowers? My brother has 29 swarms of bees; he would have had a good many more, but he lost more than half of his bees last winter.

MARY S. EHLERS, age 12.
Pleasant Valley, Iowa, July 31, 1884.

I think the honey is exactly what he is after, Mary; and if you will watch him carefully you can see him put his long tongue away down into the flower, to get it.

A VERBATIM LETTER FROM THE PRESIDENT OF A MISSIONARY SOCIETY.

DeaR UNCle AMos We h*a*Vea bee hiVE bu*t* nO bEEs. We hAV*e* A miSsIonA*r*Y sOCiEtY, aNb I *a*M pResiD*e*Nt. We HavE *a* suNDAy SCHOOl,a*t*homE sINCe OUR *H*ORSe dIE*D*,I wANt TeN*N*igHtS*I*n bAR *R*oOm gEOr*g*gE aGE 9.
RedDing

Well, friend George, that is a pretty good letter for a boy of nine. But I shouldn't wonder if a good many of the boys and girls would laugh to think of your being president. Never mind; let them laugh. The letter is a good one, and may be some day your society will grow big, and you will grow big with it.

SOMETHING ABOUT THE MOSQUITO-HAWK, ETC.

My papa has 19 colonies of bees. Our bees worked last summer on the linden; there are 150 lindens on my grandpa's place. We have not lost any swarms yet. There is a weed that grows around here that the bees work on from morning till night. My papa thinks it is the Simpson honey-plant, from the resemblance to the picture. There is an insect here that destroys a great many bees in summer; some call them the mosquito-hawk. They go into the bloom of the Simpson weed, and I kill a great many late in the evening. **Lula May Tyler.**

Knob Noster, Mo.

HOW FREDDIE'S FATHER KEEPS THE BEES FROM JOINING THE UPPER AND LOWER COMBS.

In the June number, p. 404, Philip Weare wants to know the easiest way to keep the bees from joining the surplus to brood-frames. I will give papa's plan. After trying every thing, Heddon's honey-board made of wooden slats included, he takes five strips of enamel cloth, 2½ inches wide, spaced equal distances apart across the frames. This gives the bees plenty of room to go between the strips. He never has any trouble with queens going up. The cloth should be placed with the glazed side down. He used wide frames for surplus.

The best bee-feeder is a bag holding a quart, filled with syrup or honey, laid on top of the brood-frames. I help papa with the bees, and try hard to learn all about them, so as to be of some use; but I can't like the work. **Freddie Griffin**, age 11.

Charlottesville, Va., July, 1884.

Thank you, Freddie. We used the bag bee-feeder a great deal some years ago, but the bees so soon got to biting holes through it, and letting the syrup all run out, that they were discontinued. The ducking we sell makes a good strong bag for the purpose.

A QUESTION ABOUT EIGHT-FRAME HIVES.

My pa has six swarms of bees; four of them are in the 8-frame Langstroth hives, and two in the old-fashioned box hives. Pa takes GLEANINGS, and has an A B C book, and thinks he would like to send to you for some Italian queens, but is afraid he does not understand the business well enough to introduce them without loss. Ours is the common black bee. They are very strong. This is a prairie country, yet I think it very good for bees. Pa wants me to ask you whether a large swarm of bees can winter successfully in an 8-frame Langstroth hive. What is the cause of bees killing and carrying out their young bees? The spider plant bloomed to-day for the first time, but I did not see a bee on it.

Clyde D. McKinley, age 11.

Easton, Mason Co., Ill., July 13, 1884.

Yes, Clyde, I think an 8-frame hive would winter very well with a good strong colony of bees in it. As the winds are pretty severe on the prairie, making the sides of the hive double, and fixing a tight high fence to keep the winds off, would probably be an advantage.—I fear you do not get up early enough to see the bees on the spider plant.

FROM OUR LITTLE FRIEND RHODA, WHO HAS LOST HER FATHER.

I am living with my brother-in-law, Robert Cooper, and going to school. He takes GLEANINGS, and we all like to read it very much, especially the Home Papers. We started in 1883 with 11 colonies in the spring, and increased to 26, and took 1000 lbs. of honey off. We enjoy it very much, especially in swarming time. We have three kinds of bees—the hybrid, Italian, and albino. My pa kept bees when he was here; but he has crossed the river to his home with Jesus, and I am trying to live so that I may one day meet him, where partings will be no more, and I should like to have an interest in your prayers. We have prayer-meeting here every Tuesday night, and every third Sabbath, and have had ever since my pa's death, which is seven years. Whether we have any thing else or not, we have the Lord's presence with us. I should like to see your little boy.

Rhoda Garner, age 13.

Sherman, Sangamon Co., Ill.

May God bless you, Rhoda, for your bright faith! It *is* true, that you may have the Savior present, even if your father is gone. May your little letter be a good lesson for many of us who are older!

JOHN'S LITTLE BEE-HIVE.

Mamma thinks I can not write well enough, and she does not want me to print, so I will get Aunt Rhoda to write my letter. I had a little stand of bees last summer. My Uncle Tommy made me a hive; it was as high as my First Reader, and not quite so wide; and when my papa's bees swarmed the second time, as he always puts them back, and we did not want to kill the poor queen, mamma took a handful of bees and put them in my hive with her, and she raised her little stand full of bees, and you ought to have seen them when it was warm. They would come out and lie all over the hive. My papa has one colony that lost the queen, and my papa took my swarm and put it in his hive, and saved it, and do you not think that should be mine? I love bees and honey. My mamma reads to me about a good man who preached about Jesus. He had honey to eat, and she read to me in the Bible about the good Lord himself eating butter and honey. God bless little Huber, and make a preacher out of him.

John L. Cooper, age 7.

Sherman, Sangamon Co., Ill.

But are you sure, Johnnie, that the Bible says Jesus ate any butter?

HONEY FROM LETTUCE.

Pa has 47 swarms of bees. They were so ugly that they chased pa and ma into the house. Ma and Lucy took a swarm of our bees from a tree the other day, and there was a swarm going over, and they alighted on the same tree with the few that were left; my sister saw them first, and so they are hers. They put them in a hive and they are working nicely. Our lettuce grew so tender that the bees liked it very much. They were on it as thick as they would have been on a bed of flowers. Ma watched them and they would make little holes, and suck the juice. **Hattie Clark**, age 11.

Lenox, Mich., July 11, 1884.

Well, Hattie, you have indeed given us a valuable fact, and I wish you would tell us a little more about it. Are you sure the bees worked on the lettuce, or were they there only because of aphides of some kind? The juice of lettuce is not usually sweet, and it would have to be quite so to induce bees to cut into the leaves. Perhaps you have got a wrong impression somewhere; but if bees work on this kind of lettuce right along, that would settle it, and I suppose every bee-keeper would be wanting some seed.

BRIEF NOTES ON ARTIFCIAL SWARMING.

This is papa's birthday. He is 32 years old. Our bees have not swarmed this year, but papa made 2 hives by taking a few combs from other hives, and putting them in new ones. J. A. LYON, JR., age 8.

Washington, Pa., July 19, 1884.

HARVEST TIME.

It is now in the height of wheat harvest, as well as honey harvest. I am not afraid of the bees. I go all around the hives, and am not afraid of getting stung. My pa takes your journal. I like to read the little folks' letters. I have one brother and four sisters. LUCINA G. KOONTZ, age 10.

Tipton, Ind., July 2, 1884.

THAT OLD CHALK MARK, AGAIN.

A broad chalk mark around a sugar-bucket or barrel will keep out ants. I have always kept house while mamma taught school. Now mamma keeps house, and teaches us at home. My uncle, Frank Wilder, has a nice apiary.

DAISY REDDING, age 11.

Stanton, Fla., July, 1884.

80 LBS. OF HONEY STORED IN A SALT-BARREL.

My papa keeps bees. The 5th of July, 1883, one swarm came out. He had no hive to put them in, so he put them in a salt-barrel. In the fall, after they were done working, he got 80 lbs. of honey out of the barrel. Wasn't that pretty good?

JOHN H. CHALMERS, age 9.

Oldfield, Iowa, July 26, 1884.

ALBERT'S MOUNTAIN HOME.

We have two swarms of bees. They are gathering honey every day. My papa thinks of going on a bee-ranch. I like to catch the lazy drones, for they eat the honey, and don't gather any. Sometimes the bees sting me when I am catching drones. Our town has mountains pretty nearly all around it.

ALBERT E. ROBISON, age 8.

Golden, Colo., July 14, 1884.

QUEEN INEZ.

My pa had 7 stands of bees, and increased to 18, and took 200 lbs. of comb honey in pound sections last year. He also bought 4 Italian queens and 1½ lbs. of bees in each, in July, and had one colony in an observatory hive, and we often saw the queen. I named her Queen Inez. One of them swarmed twice. One swarm went away at 9 in the morning, and came back at 4 the next day, and went back into the hive again. INEZ JOHNSON, age 10.

Michigan City, Ind.

FROM THE HEFFELBOWER APIARY.

Dear Uncle Amos:—I will write you a letter. I go to school. Will you print our letter? If I am worthy of one of your books, I should like Silver Keys. Three of pa's swarms died; he has 25 yet. I should like to see you and your bees.

BENNIE HEFFELBOWER, age 7.

Now I think it is my turn to write. I should like a book too. Please send me Sheer Off. I have a little bantie chicken. I feed it bread every day. It is tame. When you come to see my pa and his bees, I will show it to you. EDDIE HEFFELBOWER.

I like my little knife and fork I got of you. I am a juvenile, and my mamma holds my hand so I can make letters. I have a little brother, five months old; he has blue eyes. We call him Freddie. Would you like to see him? BERTIE HEFFELBOWER.

Cass City, Mich., Feb., 1884.

I went to school this summer for the first time. My papa has three stands of bees. My uncle holds his knife on a sting, and the steel takes out the pain. I have two brothers, Denzie and Ruby. This is the first letter I ever wrote to a paper. Mamma likes to read GLEANINGS. She could not do without the smoker. CLARA COLDREN, age 7.

Hawpatch, Ind., July 3, 1884.

ORAN'S ENCOURAGING REPORT.

I live with my grandpa and grandma. My grandpa chewed tobacco for about 30 years, and about 4 years ago he quit. We have a dog, and we call him Major; he can bring the cattle, and do a great many other things. We have four swarms of bees; they swarmed once this summer.

ORAN ZEHNER, age 8.

Williamstown, O., July 17, 1884.

ABOUT THE WHOLE BRICK THAT THE ROBBER-BEES PUSHED AWAY.

It was a whole brick that was put at the entrance of the hive; for wouldn't a piece of brick be a brick *bat?* We have taken off a box of honey this year. I enjoyed Sheer Off very much. It is nicer than I expected it to be. You needn't print this, but I wanted to explain about the brick.

MARY RICHARDSON.

Cazenovia, Ill., July 19, 1884.

I live in Providence, R. I. I go to school and Sunday-school. I don't know much about bees, but that they sting. The honey is nice and good. I am visiting where Myrtie and Ralph Hyde (who have written to you) live. Uncle Judson has the prettiest collection of hives that I ever saw in my life. The catcher hives them, and sends them off on the cars. I got stung on the hand by a bee once. Ralph sent a card to Blue Eyes; I am going to send one to Huber. FRANCES E. WOOD, age 11.

Pomfret Landing, Conn.

LUCY'S EXPERIENCE WITH THE BEES.

We have gone into the bee business. I like it very much. It is nice to work with them. We had a swarm of bees to-day. One day we had four swarms in less than two hours. In order to keep the grass from around the hives we have put sawdust before them. We are going to sell the rest of the swarms. I have been going to school, but it is out now. We have nice weather for bees. The linn is in bloom now. LUCY M. ANDERSON.

Thomas Hill, Mo., July 4, 1884.

LIZZIE'S MOTHER AND HER BEES.

My ma has 4 colonies of bees. We had 7 last summer, but wintered only 3, and got only one swarm this summer. We got 146 lbs. of honey last summer. We sold only 16 lbs., but we do not know whether we shall get any honey this year. My ma wants to find out all she can about bees. My pa is a farmer, and we raise all kinds of stock—chickens and geese. I go to school most of the time when there is any, and learn lots, of course.

LIZZIE BRADFORD, age 10.

Williamstown, Ohio, July 16, 1884.

MYRTLE'S LETTER, AND SOMETHING ABOUT WEEDS AND ROOTS.

I am a reader of GLEANINGS. My pa has three stands of bees; two of them are doing very well, and the other one is not. They have fought and killed the most of them. Can you tell the cause? We have had some very hard storms here. We have plenty of beautiful flowers on the prairie for the bees. We have also plenty of catnip and buckwheat, which they seem to be very busy working on. My name is Weed, and your name is Root. I don't know whether you are the same kind of a root that I am weed, or not; but roots and weeds grow together. MYRTLE E. WEED, age 10.

Kennard, Neb., July 29, 1884.

SAMUEL'S STORY.

Some of our bees swarmed, and they went to the limb of a tree, and settled; but the limb was not strong enough, and it broke. They then went off. A man caught them and hived them, and now has 4 stands, with which he well supplies his family, and sells honey every once in a while.

SAM A. SWIGGETT, JR.

Allerton, Wayne Co., Iowa.

ABOUT THE COW THAT LASHED HER TAIL IN FRONT OF A BEE-HIVE.

My papa has 16 colonies of bees. One of them swarmed, and my papa thought they would alight, but they went back into the hive, and he separated them in another hive. Our cow got in front of one of the swarms, and lashed her tail, and she had to run. There is a little peewee making its living on the bees. I was throwing stones at it, but I couldn't hit it. FRANK HOFFMAN.

Geigertown, Pa., July 28, 1884.

HOW THEY LOST THEIR BEES.

This is my first letter to you. We had bad luck with our bees last winter. We started in with 130 colonies. They died off to 43 colonies. We now have 53. One reason was, we put 30 in a cellar, and it got damp, and in the winter froze, and they died. The others were packed in chaff. The entrances got stopped up, and they died. Some had the dysentery. If people want to keep bees they must take good care and not handle them roughly.

MYRON C. BIRD, age 11.

Smithland, Iowa, July 2, 1884.

A LETTER FROM A CRIPPLED BOY.

I am a little crippled boy, 13 years old. My pa took me to the doctor's some years ago, but they did me no good. I walk with one crutch now. My pa does not keep bees, but my grandpa does. He got 1025 lbs. of honey this spring, out of 40 swarms.

CHAS. COBLENTZ.

El Dorado, Preble Co., O., July 25, 1884.

I am sure, Charley, we all feel sorry to know that you can not walk without crutches. We hope when you get older you will outgrow your infirmity entirely.

RABBITS, BIRDS, AND BEES.

I have four young English rabbits. I did have two old ones, but they ran off. I think the old doe is dead. I saw the buck last night. I had a young jack rabbit, but he got away. We found a nest of Mollie cotton-tails, with 7 young ones in. I caught a young meadow lark last night, but I let it go again. When pa wants to save some foundation, he cuts the cells off on both sides and uses the center. I find lots of birds' nests. I found one hawk's nest this year. IRWIN CRAIG.

Empire, Dak., June 30, 1884.

A SIX-YEAR-OLD CORRESPONDENT.

I thought I would write a letter to you. Pa has 6 hives of bees, but he has no smoker. He has quit chewing tobacco; he doesn't smoke, so I think he ought to have a smoker. I have a little sister. She has a crooked back. It is her spine. She can not walk. She is three years old. I have a baby-brother and six little kittens.

MINNIE ANDERSON, age 6.

Greenfield, Ia., June 29, 1884.

Friend Mary, your pa is entitled to a smoker when he gives us the customary promise that he will pay for it if he uses tobacco any more in any shape. You see, my little friend, we want the promise, to make the bargain a binding one.

THE BOTTOM LANDS OF THE MISSOURI RIVER, ETC.

We live a mile from the Missouri River, in the bluffs, with hills all around us, covered with trees. Indeed, for miles around us, in all directions it is nearly all woods, a great deal of which is basswood. The Missouri bottom land, a great deal of it is wild, and lots of wild plum grows there, and hoarhound, blackheart, and goldenrod grow everywhere. My papa thinks hoarhound honey the best of all. We have lots of redbud, and sumac too; and last season papa discovered that lots of figwort grows here too, so he thinks this a good place for bees; and I think he ought to know, for he takes GLEANINGS, and thinks more of it than any thing else he reads, except the Bible.

I should like to see your little Huber. I have a nice little black-eyed sister, Eva May.

Corning, Holt Co., Mo. ZENAS COLLINS.

SMALL PEOPLE, BUT GOOD CONTRIVERS.

My pa has 60 hives of bees. He has had 10 swarms this summer. He wants me to get interested in them, so I can help him take care of them. He has some very nice honey. He sold a good deal last year. He put some honey in the shop, and how do you think the bees tried to get it? They came down the stovepipe, then through the stove door. They are small but good contrivers. Papa went out to see to them the other day; he took one by the wrong end. I am having vacation now. I expect to go to school again this fall. I have one sister 6 years old; her name is Emma. We have nice times together, swinging, playing croquet, berrying, etc.

ALICE WOOLSEY, age 9.

Bedford, N. Y., July 3, 1884.

Well done, Alice. It is true, that bees many times show an amount of ingenuity that would put many children to shame, if they did not make grown-up people ashamed of themselves. If you want to see how hard bees will work to find a plan to get into houses, just let them have a snuff of the honey, and I will guarantee they will go down chimneys, or up stairs, or down cellar, or almost anywhere for it.

SWEET POTATOES FOR BEES, ETC.

I am a boy of 14 summers, and I have been in bad health for four years—not able to work or go to school. But I practice writing at home, and you will see that I am pretty good with my pen, but not very good in spelling.

My pa has 75 bee-hives, and all are doing well. I tend to them a good part of my time. They are all little black bees here in Southern Texas. The winters are generally very mild and warm, and bees hardly ever die for want of something to eat, as we have flowers of some kind or other nearly all of the winter. When we feed them we bake sweet potatoes good and done, and put them under the gum, or hive, as we use the old-fashioned box gum. We don't know how to make any other, and are too far off from you to buy them, and have them brought here. JOHN F. BALLARD.

Cold Spring, Texas, Jan. 29, 1884.

FUN IN THE APIARY.

This hot July day finds us with an apiary of 49 colonies, all in good shape; but mamma says she doesn't think we are going to have a very big crop of honey this season. We had two swarms go to the woods, but papa went along with them, and brought them back after they had settled. I just wish you could see our apiary. We have grapevines for shades, and some of the vines have nice clusters of grapes on them, though they were set out only last spring. We keep the ground smooth and clean, and it is such a nice place to walk in evenings! Mamma and a little six-year-old brother and three-year-old sister were out in the apiary one evening, and they got to playing they were in town, calling the two and three story hives the big houses, and the one-story hives the little houses, and the bees in front of them were the people; and while they were walking around and talking, out hopped a great big ugly toad from under one of the hives. Mamma told the children he was a robber, so she arrested him and bore him off to prison, the prison being Mr. Wasson's pasture, which lies adjoining our grounds, and the children thought it was so funny, and it really did seem a little funny to see a great big grown woman like mamma out playing with the children that way; but I guess it makes her think of the time when she, too, was a child.

EVA DUNCAN, age 12.

Lineville, Iowa, July 23, 1884.

THE BEES THAT THE ANTS AND WORMS WORRIED.

My sister and I have each a stand of bees. Our brother gave them to us. One we call strong, the other weak. The ants have taken possession of the strong one, and the worms the weak one. We thought something must be done. We never had done any thing with them but wait for the honey. At last we took courage, and opened the weak one, found about a coffee-cup of bees, no brood, only 4 cells. We opened it again, found no queen, but fewer bees every time. Then we opened the strong one, took out 4 frames filled with brood and honey, and 5 or 6 queens-cells, uncapped. Now, we thought, they are all right; they will soon make a queen. The brood hatched out, but they have no queen.

Our bees are the veriest savages, and we thought if we could only get one civilized queen we might get bees that we might learn to handle. They are three-banded. We killed the worms in the one, and changed the hive of the other.

MISS AGNES HUDDLESON.

Victor, Iowa, July 7, 1884.

My friend, you have described very vividly the way a colony of bees dwindles down when they lose their queen, but I am afraid that your attempts to make an artificial swarm will not succeed very well. After combs become infested with worms like those, about the only way to save them is to put one comb at a time in a strong stock of Italians. A good strong colony of bees will overpower the worms, and dig them out, when a few bees and a great many combs with worms in them would not turn out so well.

SWARMING TROUBLES.

We bought one hive of bees last spring; they went right to work on apple-blossoms, and that is about all they gathered, on account of dry weather. The early frost spoiled the goldenrod and all fall flowers, and we had to feed them sugar. They increased to three swarms. The first one came out when we were hoeing cabbage; we heard a buzzing, and, as we came to where they were, we found that they were swarming. It was a very large swarm. The second one came out the 3d day of July. Papa was not at home, and I went to get him. When he came home the bees were all clustered on a tree. He caught them and carried them to the hive, and they would not go in, but went back into the old hive. The next morning we went to ride; and when we got back they were just coming out of the old hive. Papa told me to unharness the horse; and by the time he got things fixed they were all clustered, and he got them into the hive all safe.

SPIDER PLANT.

There was but one spider plant that came up, out of an ounce of seed. HOWARD BUTTERFIELD.

Saxonville, Mass.

It seems to me that is a rather bad report of the spider-plant seed, friend Howard—only one plant in an ounce. We send you another ounce, and hope it will do better. There seems to be a difficulty with spider-plant seed some way, but we have not yet found out what it is.

A FOUR-YEAR-OLD BEE-KEEPER, AND—A TOBACCO-USER!

I am telling papa what to write. He says if I will never put any more tobacco in my mouth, you will send me a nice little smoker, so I won't any more. I tasted grandpa's just a little bit, but I am sorry I did, and papa says he will help me to quit, if he has to use a stick once in a while; but I guess he won't, for I never will use it again. Papa takes your journal, and reads it to me about how the little folks say they do. Papa has lots of bees; they don't sting me. They say I am too sweet. One stung mamma on the foot; pretty near made her cry. Papa says I must quit, or I won't have any thing to write next time. So, good-by.

ARTHUR ESHENFELDER, age 4.

Eaton, Ind., July 28, 1884.

Friend Arthur, this is really awful, to think that a boy of your age should be really tampering with tobacco; and yet you are only following the example set before you, just as we children of an older growth ordinarily do. I think your papa is about right, in saying he will have to use a stick; but I really believe, my little friend, he won't have to. I am almost afraid it would not be the thing to give you a smoker, for the example might set other children to tampering with the poison, because of a promised present; besides, our offer of a premium is to those who have got the habit fixed on them, and who used it before they saw what has been published in GLEANINGS. May God bless you, and your papa also; and even if he should be obliged to use a stick (which I feel pretty sure won't be the case), I hope it may not have the effect of in any way lessening his love for you his boy, nor your love toward him your father. Good-by, Arthur; but, please stick to your tobacco-pledge.

OUR HOMES.

But whosoever drinketh of the water that I shall give him shall never thirst; but the water that I shall give him shall be in him a well of water springing up into everlasting life.—JOHN 4: 14.

WE are a world of people with innumerable wants and longings; we are, as a rule, restless, and looking forward to something or other. Some of us are fond of change—of new scenes, of excitement of some kind or other. At this season of the year, when most people who can afford it are taking pleasure-trips, going on excursions, visiting watering-places, camping out at pleasure-resorts, etc., most of us catch the prevailing spirit, and feel more or less of an inclination to go too. We seek enjoyment and happiness; we want to have a good time in this world; and I think these wants are, to a certain extent, right, dear friends. We ought to have a good time; and where we have been burdened by heavy labor during the spring and summer months, it is well to have a little relaxation and recreation during the months of August and September. Of course, we have a great diversity of tastes, and what is enjoyment to one may not be to another. A certain class enjoy themselves at parties and evening entertainments, while others would find it a great cross to be obliged to endure what others so greatly enjoy. Of course, it is every one's privilege to seek enjoyment according to his own taste—that is, so far as these enjoyments are innocent and harmless. The children sometimes say, "Now what shall we do to have fun?" and if the older ones do not express it in exactly the same way, perhaps they often feel, "What shall *we* do to have fun?" Tired mammas, while they would not use just the term in the foregoing, have a longing for some little change, or some let-up to the monotonous routine of caring for a family of little ones. It is not altogether because we lack strength, for those who go away for recreation frequently use a great deal more exertion in their pleasure than they do in their work at home; so it is not that we wish to be released from making effort, but that we wish a change, and something that so enlists our interest that we shall not consider it drudgery, but a pastime and a rest.

Most of our pleasures, however, soon become tiresome, and lose their interest. We enjoy new things for a certain length of time, but we soon become satisfied, and then turn for something else; and as we journey on toward the close of life, our tastes change, and childish things no longer afford us the pleasure they once did. The time finally comes when all these things must be laid down. And then what? Who is there who has not, after having looked over life and its pleasures and allurements, contemplated the approaching end? And who has not summed it all up, and rather asked himself the question, "What does it all amount to?" I suppose you have all read many times the little story told in the chapter where we find our opening text. It has been for some time back a chapter full of interest to me. The poor woman to whom the Savior was talking had vainly sought for pleasure, through many changes in life. She had, too, we know, been led aside by Satan into sin and crime. Is it any wonder that she listened with interest when he told her of the waters of life? "But whosoever drinketh of the water I shall give him, shall never thirst!" She was a woman of the world, and had probably drank deeply of earth's pleasures. She was one of the class who probably did not stop to inquire very diligently whether conscience was violated in seeking pleasure or not; and she well knew what it was to awaken, after one sin after another had been committed, to the fact that all the pleasures this world of itself can give are far from furnishing any thing that permanently satisfies the longings of the soul. She was in a condition to fully drink in the words of our text—"Shall never thirst." Was it indeed possible that any thing in this vast universe could furnish something so completely satisfactory that it would be for ever an abiding joy? She was illiterate and uneducated, and Jesus had to repeat the words over and over to her, but yet she seems to have had only a glimpse of the great truth found in the closing words of the text—"But the water I shall give him shall be in him a well of water springing up into everlasting life."

During the past few weeks we have had a different class of prisoners in our jail from any I have ever met before. Three out of the five whom I have met there are held for giving way to licentious impulses. I have had long talks with them; and as is often the case, our talks have many times drifted off into other than spiritual things. In fact, I almost always have to keep a pretty strong hold on the conversation, or it will drift into unprofitable talk, and sometimes I have a feeling that, after having spent my hour there, a great deal of our talk was more visiting than spiritual talk, such as one should expect at such a gathering. Sometimes I find visitors there, and many times some young friend goes in with me; but whenever I go away with the thought that a great part of our talk has not been to the point, I have an unsatisfied feeling. Suppose you go in to see a man who is in prison for the commission of crime, and you waste the precious moments in talking about the weather, how much does it amount to? Or suppose we talk about the crops, or new inventions or discoveries, if you choose, or the current topics of the day which they have got hold of from the newspapers that are always furnished the inmates.

Jesus said to the woman, just before he uttered the words of the text, "Whosoever drinketh of this water shall thirst again." Yes, my friends, and he shall thirst very, very quickly. Even after having talked strawberries (you will pardon me a little just here, dear friends, for you know I am having strawberries for a hobby just now), unless the strawberries have a great deal of God about them, they are flat and unsatisfying, compared with that well of spiritual water. There is, friends, a verse in one of my old favorite hymns that closes with the following:

Oh, 'tis not in grief to harm me,
While thy love is left to me;
Oh, 'twere not in joy to charm me,
Were that joy unmixed with thee.

As I grow older, I have been led to feel more and more that there is no abiding pleasure or satisfaction in any thing this world can furnish, unless the joy is in some way mixed with love and praise toward God. I have before told you that I sometimes feel sad to think I have lost my relish for story-books, as the children term them. But every little while I am delighted to find that I have not lost a bit of it, when the story embodies that spiritual water; and every little while I come on to a book from our Sunday-school libraries that I enter into with all the zeal and enjoyment I ever knew when in my teens; yes, and more too, for I *now* feel that there is a world to be saved, in a way I did not then; and I know by my own experience that these books, written by good men and women, are telling thousands of that water so freely offered, and to be had simply for asking, by any thirsty soul. Among my own acquaintances are many young people, and these young people are almost always full of wants and longings; they not only want something to do, as I have told you so many times over, but they want something to enjoy—something for pleasure; and what a pleasure it is when I find one after another who has learned to build on that solid Rock—who has learned to drink of that water that satisfies! How beautiful to contemplate, is the building-up and filling-out of the character of a young Christian—when he shows by his acts, "God first, and all else afterward!" How safe we feel when such a one is subjected to temptation! The world may look on and say, "That boy will be spoiled; they are making too much of him; they are putting too many responsibilities on him;" but we who know that he has been drinking of the waters of life, feel that he is safe; he knows of a Savior's love. He is among those who can say, in the language of the little hymn,

I am thine, O Lord; I have heard thy voice,
And it told thy love to me.

The woman replied to the words of the text, "Sir, give me this water." Before granting her request, Jesus put some questions to her, that showed her plainly what it was she asked—in other words, what a great step and change in her life would have to be made before she could consistently ask to drink of this living water. Even then, when her evil life had been pointed out to her, and when she recognized that it was Christ the Messiah who was looking into her past life as well as her inmost thoughts, she replied evasively, holding fast to the creeds of her fathers, to that empty creed which made religion an outward form, rather than an experience of the heart. We do not learn that she said in words, "I have given up all and followed thee," but she went back and told her townspeople that Christ the Messiah had come; and we may fairly presume that her sins were pardoned, and that she was saved, because she accepted him as Christ, the Savior of men.

The question may be asked, "Can one who is enslaved to the things of this world, at once find pleasure and satisfaction in drinking of these waters of life?" Very likely, he can not. A man who has a passion for gambling, and who has no pleasure in any other occupation, would, without doubt, find a prayer-meeting,—even our young-people's prayer-meetings that are so full of life and happiness,—dull and insipid—at least for the time being he would find them so. What then? Why, my friends, the thing to do is to go to the prayer-meeting, and do the best he can, no matter if it is dull and uninteresting; even if thoughts of his old pleasures do hang about and torment him. The thing to do is to battle it down—put himself in the path of duty as well as he knows how; restrain and conquer bad thoughts and old longings by sheer force and strength of will; take up all these duties, whether you feel like it or not. One who proposes to be guided by his feelings will very soon find himself in Satan's toils. If the feelings prompt in the right direction, all well and good; but where these are diseased and perverted, we have no more right to consider them a safe guide, than that a runaway horse should be considered a safe animal for the children to drive. Sometimes, I believe, new converts turn over at once so thoroughly that they find pleasure and joy in right thoughts and right actions from the commencement. But I believe such cases are not the rule. Buildings are not to be constructed without hard work and heavy lifting and severe toil; neither can Christian character be built in any other way; and one who starts out to quench his thirst with this water that Christ shall give, will very likely find, for a time, that he has a battle before him. It is true, we have longings for that which is pure and good, and most men do at times, if not all the time, have a hungering and thirsting after righteousness. The longings of a child for that which is evil are not often very strong to commence with, although there may be inherited appetites and passions; but if a child grows up having his own way, pretty soon appetites and passions are formed, and he soon finds himself hungering and thirsting, not after righteousness, but evil. Who is there among us who has not at some time or other in life felt this? Now, Jesus does not say that the water he offers will be more refreshing or delicious at the start than any thing you ever tasted before. He simply says, that after drinking of "the water that I shall give him," one shall never thirst; that is, it shall eventually prove satisfying; no shame or remorse shall be mingled with it; and afterward the one who continues to drink of these waters, and only these, will find them springing up into everlasting life. He will find in his own experience something that tells him of the joys that are reserved for those who labor to do the Master's will.

Almost ever since I commenced studying the character of Christ our Lord, I have been impressed with the thought, as I have often told you, that Jesus, when in his childhood, was much like other children—much as we are or have been, and the Father unfolded to him, little by little, his plans and purposes for the redemption of mankind;

and yet it was only until comparatively toward the close of his life that it was made known to him in full his coming sufferings on the cross. Now, we have the promise of becoming joint heirs with Christ (see Romans 8: 17); that is, our experience will be like his; and the conditions are, that we drink at this fountain where he drank; that our pleasures in life be innocent and harmless ones. If the thing that we feel inclined to do should not be hurtful in itself, but we feel pretty sure it would set a bad example, drop it, and look out for something that will rather conduce to bringing forward Christ's kingdom, instead of in any way hindering it.

Jesus did not tell the woman of her sinful life until she said, "Sir, give me of this water, that I thirst not;" and I believe it is true, that God does not reveal to us the condition of our hearts until we come to him; in fact, the sinner will not listen, nor heed the voice of conscience, until his attitude of heart be, "Have mercy on me a sinner." When she asked for the water of life, then he could tell her of her bad record. She accepted the reproof, and accepted his words; for she replied, "Sir, I perceive that thou art a prophet." Then he unfolded to her the way of life. He told her that they who worship God must worship him in spirit and in truth; and he finally told her, when she spoke about the coming Messias, "I that speak unto thee am he." We do not learn what she said then; perhaps she said nothing; but we do know this, that she left her water-pot and went her way into the city. She had turned away from the world, and in her zeal had even left her ordinary employment. When she came into the city she spoke to the men after this wise: "Come and see a man which told me all things that ever I did. Is not this the Christ?" Perhaps she could not have chosen a better way to bring humanity to him. We all of us know how to get to work to influence our fellow-men when we are really in earnest and really anxious. We are accustomed to say of those around us, many times, that they are peculiar, and must be approached in the right way. Sometimes we think our neighbors stubborn, and that it is no use to try to do any thing for their spiritual welfare. But, dear friends, when we get really in earnest, and anxious, we almost always find out a way. Her heart was full of service for the Master. She had tasted of those waters, and all else in life was to her now insipid and unsatisfying. So it will be with us, friends, when we will let go of the world and lay hold of Jesus.

I have once or twice spoken of a young man whom I found in our jail, and who had turned away from his old life, and commenced to serve the Savior. He went with me to a mission Sabbath-school, and in his own uncultivated way he talked to a group of boys, some of them his old comrades, perhaps, and told them, as best he could, of this water of life. After the scholars had all left the old red schoolhouse, and gone to their homes, he looked up to me with shining eyes, and, said he, "Mr. Root, I shall go crazy if you keep me in this work." When asked how so, he replied that it was because the work made him so happy. You see, friends, he had just begun to drink at that fountain that Christ was telling about. He was forgetting *self*, and giving his life for his old companions, just as Christ gave his life for us. And so selfishness and selfish pursuits give no abiding comfort or satisfaction. It is when we see this great world of humanity before us, and it is when we feel their need of a Savior, and, losing sight of every thing else, start out to tell men of this Savior, that we begin to drink of that satisfying water—just as the woman at the well went back to her native town and told her simple story. No doubt but that she had, in former times, been a stumblingblock, and had turned many a well-disposed one out of the path that leads to eternal life. But, now all was changed. She did not assume more wisdom than common people possess, and she was not dogmatic in imparting her news, but she said, "Is not this the Christ?"

Friends, I need this little talk to-day; and while I am going over it I have more than once wondered if some friend did not feel like saying, "Brother Root, are *you* drinking of this water? Do all the transactions of the past summer wherein we have dealt and corresponded together, indicate that you have been going constantly to that fountain, and drinking of that water that the Savior can give?" I am afraid, dear friends, they do not. The thought has come up before me many a time of these monthly Home Papers, and I have sometimes felt a little anxiety when I looked forward to them, just as I think of the blessing that I must ask at the table, or of the family prayers at night; when I am tempted strongly to give way to an impatient spirit, I feel sad and sorrowful when I look back and realize that I have been so extremely human, and may be worldly, after having made such public profession as I have made and am doing. And yet, God knows I think I am willing to give of my time, and of my substance and means, when I am satisfied that, by so doing, it will further his kingdom. You who have known me long have probably seen me go to both extremes. I have sometimes shown selfishness; and, again, in my zeal to do the Master's will, regardless of what it cost me, I have been too lavish with the means God has given me, for I have sometimes handed over money where it did harm, and harmed the Savior's cause, as I verily believe. But I tried to do right, and I tried to put away selfishness, and I tried to remember that I had already proven there is no comfort or satisfaction or happiness in drinking at any other fountain than the one that furnishes the water that Jesus gives.

Our correspondence is now too great a burden for any single human being, and failing health has many times reminded me, that, if I would be of use to my fellow-men, and if I would continue to be able to labor for the Master, my powers must be husbanded. During the past six months, more kind letters have been passed by unanswered than ever before; and it was not because I wearied of them, but because I was obliged to choose between duties, and take those most important. So do not think, dear friends, that I have not read your kind words, nor thought of them, even if I did not reply, as I wished to do. Sometimes I have dictated brief answers to the clerks, and felt sad afterward to see that they had not understood me correctly, or that I had not made myself understood, as I intended to do; but a great crowd of other cares obliged me to let it go as it was. Many times, when I knelt down, tired and worn out at night, I have prayed for you, feeling that it was about all that I could do; and when I could not remember you individually, I have prayed for the readers of GLEANINGS in the aggregate; and as I close my little talk to-day, once more I invoke God's blessing on you all; and may he help us, each and every one of us, to find the way to this fountain that furnishes the water that whosoever drinketh of it shall never thirst. And may the dear Savior help us to find that the way to this fountain must be through love to God and to our fellow-men; and after having found it, we shall rejoice in the work of evermore bringing souls to the fountain we have found; and that we may, like the poor woman at the well, be always ready to say, "Come with me;" and with John, "Behold the Lamb of God that taketh away the sin of the world."

TOBACCO COLUMN.

A BROTHER WHO NEEDS OUR PRAYERS.

FRIEND ROOT:—As I was compelled to have a little help in putting up some hives, I employed a man that was almost 83 years of age. While we were working I noticed him spitting tobacco juice on the floor; I asked him how long he had been using tobacco, and he told me about 43 years. He is a poor man, and has very poor health, as a general thing, and he is trying to get a start in the bee business, and has said to me several times that he wished he had a smoker. So I told him, if he would quit using the filthy stuff, and promise not to use it any more, that you would send him a smoker. I noticed that he studied a good deal about the matter for a day or two; so he finally said it would be a hard trial for him to quit, but if I would write, and get you to send him a Clark smoker, he would promise, fair and square, never to use the stuff again, neither smoke nor chew; and if he did, he would pay you for the smoker. I feel satisfied in my mind that he is a man that will do just what he promises, for he is a straightforward man. He said, just as soon as he saved enough from quitting the use of tobacco, he would send for GLEANINGS. Now, if you will oblige this man with a smoker, address Mr. Alexander Givens, Graysville, Monroe Co., O.

Friend Root, out of 44 colonies that we had last fall, we saved only 30 this spring; and, with the exception of three or four, they were all very weak—from a pint to a quart of bees the first of April. But I have got them built up till they are all in a fair condition; and I have made an increase of 13, which puts me within one of where I was last fall. We have extracted 40 gallons of honey, and have got 900 sections, and, I think, they are pretty well filled. The dry weather is cutting the honey crop a little short in this section of country.

A little in regard to wired frames. Some have asked the question, How do you fasten the wire into the bottom-bar? That was a mystery to me at first. My plan is to make two holes, instead of one, which I think is cheaper than putting in a tack; don't you think so? DANIEL P. HUBBARD.

Graysville, O., June 29, 1884.

To be sure, I will send your friend a smoker, friend H. I am glad to get promises in this way, because then there are two interested in the matter, and the one who makes the promise has his friend not only for bail, as it were, but he has him for encouragement ond help. In union there is strength, and two names to a promise are almost always better than one. Besides, it is an additional help to know your friend is watching you, and is anxious for your welfare, and, may I not say, friend H., is also *praying* for you?—In regard to the wired frames, we prefer the tack. May be two holes would be cheaper.

I will quit the use of tobacco. I have used it 22 years. ABRAM MOOMAN.

Good Hope, O., July 26, 1884.

I have quit the use of tobacco. If you send me the smoker, I will promise if I ever use it again to pay you for it, on my honor. J. M. BRYAN.

Gentry Mills, Texas, July 9, 1884.

Two years ago I told you I had not used tobacco for a year, after using it 26 years. It is 3 years last April since I used it, and I used it only so long. If I could quit, any one can, *and I am free.*

Flushing, Mich. DR. C. E. RULISON.

I have quit smoking and chewing tobacco, and I shall never use it again. If you choose you can send me a smoker, and if I ever do use the weed again I will pay for the smoker. J. A. WATSON.

Graysville, O., July 17, 1884.

After having used tobacco for years I have quit, and have not used it for some time. If you think I am entitled to a smoker, please send one; and if I use tobacco again I will pay you for the smoker.

Rochester, O. MERTON MERRILL.

I have used tobacco for 14 years, and I have conquered that appetite for tobacco at last. This is the second time I have tried to quit. If at first you don't succeed, try, try again. If I am entitled to a smoker, please send me one. I have quit the weed, and have not used it since New Year's, last; and if I ever use it again I will pay you $1.00 for the smoker.

Greenfield, Iowa. P. L. ANDERSON.

Having the privilege of reading one of your papers, GLEANINGS, the other day, I saw and read with much interest, the Tobacco Column. I have used tobacco for over 30 years, but have resolved never to use the weed in any form again. Am I entitled to a smoker? I have one swarm of bees.

U. SPENCER.

Bellevue, Eaton Co., Mich., Aug. 2, 1884.

HONEST, THOUGH STILL IN THE CHAINS OF APPETITE.

Inclosed please find 70 cts. in postage stamps to pay for bee-smoker and postage on same, which I received from you through Mr. Paxton, on condition that I would quit the use of tobacco. I have made an inglorious failure, consequently I am under obligation to pay for same. J. B. RIFE.

Good Hope, O., July 31, 1884.

I am this day going to quit smoking, and will ask you to give me a smoker, and if I ever use the weed again in any shape or form, I will will sorrowfully pay you for it. **Ezra K. Parrish.**

San Bernardino, Cal., June 16, 1884.

I have quit the use of tobacco since reading GLEANINGS and the Gospel Advocate and Good Templar, so you may send me the smoker, and if I ever use tobacco again I will send you the price of it. **W. G. Bells.**

Lawrenceburg, Tenn., July 20, 1884.

Mr. Root:—My husband has quit the use of tobacco, and I promised to write you and ask you if you would send him a smoker. He says if he commences using it again he will pay you for it. He has 13 colonies of bees, and takes GLEANINGS; thinks he can't do without it. **Mrs. D. C. Noble.**

Larwill, Ind., June 25, 1884.

I see an account of your giving bee-smokers to any one that would quit the use of tobacco. I can say I am saved from its use, but it was not for the sake of your bee-smoker I quit. I have been a slave to its use for about 30 years, until last winter I was saved from its use by the grace of God to help me, and I am giving God the glory for it; and if you think me entitled to one of your bee-smokers I shall feel thankful for the favor.

Dennis, Iowa. **Joseph O. Hiatt.**

A YOUNG FRIEND TAKES A SMOKER, AND ENLISTS AGAINST TOBACCO.

I see that you have been presenting a smoker to those who agree to quit the use of tobacco. I agree to use no more in the future. I have used none for several weeks; am I entitled to a smoker? I am a poor boy, and have no money to pay my expenses with. I shall be twenty this summer. Profanity and intoxicating liquors, I do not indulge in. **J. H. Billinghurst.**

McArthur, O., June 11, 1884.

THREE MORE WHO HAVE STEPPED OUT OF THE SHACKLES.

I see that you have been offering a bee smoker to any one that would make a final quit of the use of tobacco. I do not want your smoker nor any other award for quitting the use; but let me tell you something that will surprise you. There are three men of us living at the same house; one of us has been using tobacco 60 years, the other 12 years, and myself 45 years. We all quit over a year ago, and quit whisky four years ago.

La Grange, Fla. **A. C. McCrorey.**

ANOTHER WHO IS NOT ASHAMED TO OWN UP, AND PAY UP.

Yours of the 2d is at hand. You ask why I charged myself with one dollar. It is thus: I received a smoker of you on promising to quit the use of tobacco, which I did, but I am using it now. That is why I sent you a dollar. Is it right? **Amos Lochbaum.**

Chambersburg, Pa., July 7, 1884.

Quite right, friend L. I should not want to ask people to pledge themselves in any other way, especially such a public pledge as this, and coming from people scattered so widely. The conditions are not very hard; for who is there who would not rather pay $1.00 than use a smoker that constantly reminded him of the fact that he had broken his word?

I have a young friend 18 years of age who has used tobacco for 6 years. I showed him your offer, and he has quit the use of it. Please send him a smoker. He will pay for it if he uses any more. He has 2 swarms of bees. **H. Hatch.**

Lowell, Mich., July 9, 1884.

I have been using tobacco for the past 6 years, but now I have resolved to quit the obnoxious weed. Send me your bee-smoker, and if I use the weed again I will faithfully promise to pay for the smoker. My brother and I are doing very well with our bees. We like GLEANINGS very well; all bee-keepers ought to take it. **Frank S. Schmucker.**

Ennis, Texas, July 26, 1884.

Yours of the 8th, stated that you would be very glad to send me a smoker if I would give you my promise to pay for the smoker if I ever used the weed again. I willingly give you my promise, that I will pay for the smoker if I ever use the weed again. Friend Root, I have not used any of the weed since I wrote to you. I will remain faithful to my promise. **Wm. A. Wood.**

Lynch's, Va., July 26, 1884.

WHAT THE DOCTOR SAID.

A friend of ours who has used tobacco every since he was a mere boy, became so sick that he could not work, nor walk any distance. Last fall he consulted a doctor, and was told that nothing could be done for him unless he would quit chewing. He did so; and, as a result, he is a well man to-day, and can work as well as ever, without taking any medicines of any kind. His son is living with us, and is trying to stop using tobacco. If you think him worthy of a smoker, you can send it when you send ours, as they are trying to keep bees. **Wm. Kier.**

Vienna, Elgin Co., Ont., Can., July 4, 1884.

DIED.

In Sterling, Ark., at her residence, on the 29th day of July, 1884, Sallie Elizabeth, wife of Chas. H. Kincade, in the 34th year of her age.

She leaves five little children with me, which I humbly ask God to help me care for, and bring up in the way they should go. **Chas. H. Kincade.**

Sterling, Arkansas, July 31, 1884.

And I unite with you in your prayer, friend K.; and may God help you in your bereavement.

CONVENTION NOTICES.

The Western New York and Northwestern Pennsylvania Bee-Keepers' Association will hold its semi-annual meeting at Jamestown, N. Y., Sept. 1 and 2. A general invitation extended to bee-keepers. **W. A. Shewman, Sec'y.**

Randolph, N. Y., Aug. 4, 1884.

All interested in the advancement of bee culture should not fail to attend the meetings which will be held at Apiarian Hall during the Ohio State Fair, which will be held at Columbus, O., from Sept. 1 to 5, where the members of the Ohio Bee-Keepers' Association will endeavor to make all who may attend, feel at home. We hope there will be a good attendance, as there will be lectures delivered by eminent bee-men, essays read, reports heard, and methods of operating by practical bee-men, which can not fail to be of benefit to us all. **C. M. Kingsbury, Sec'y.**

Mt. Vernon, O., Aug. 5, 1884.

GLEANINGS IN BEE CULTURE.
Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, AUG. 15, 1884.

Then I looked on all the works that my hands had wrought, and on the labor that I had labored to do; and, behold, it was vanity and vexation of spirit, and that there was no profit under the sun.—ECCLESIASTES, 2: 11.

IN connection with the Home Papers for this month, please read Ecclesiastes, chapter 2.

WE have just made another shipment of 3000 lbs. of extracted honey to England.

ANOTHER DROP IN WAX.

UNTIL further notice, 28 cts. cash or 30 in trade, are the best figures we can offer.

WE omitted to say at the proper place, that friend Fradenburg, the rabbit man, lives at Port Washington, Tuscarawas Co., Ohio.

IMPORTED QUEENS.

WE have received a second shipment of 50 queens from Bianconcini, every one of which came through alive. These, with the other lot, give us a very good opportunity to select any grade, and we can ship them by return mail.

INSTEAD of using the ordinary pots for the strawberry plants, take a common lamp-chimney. You can then witness the wonderful rapidity with which those little rootlets grow and make their way through the soil along the surface of the glass. We have at present two growing in that way.

DURING the remainder of this month, and through the month of September, we will allow an extra discount of 5 per cent on all goods ordered during these months for next season's use. We do this in order to prevent the crowd in the spring. The above discount is over and above all other discounts. If you wish to avail yourself of this offer, please mention this, that the clerks may not fail to give it.

POLLEN FROM THE MILKWEED.

AS the season approaches, we have the usual number of inquiries in regard to what is the matter with the bees' feet, where they have been at work on the milkweed-blossoms. We would refer all such inquirers to the A B C book, which explains the matter, with illustrations. It is not a disease, and it is not any thing that will ever be likely to harm a colony materially.

FRIEND G. B. LEWIS, of Watertown, Wis., has just been paying us a call. Friend L., as you may know, is one of the largest manufacturers of bee-hives, frames, and sections, in the world. He reports the honey crop of Wisconsin, during the season just passed, as beyond any thing ever known before. We can certify to the goodness of some of it, for we have just made a purchase of one lot of 6000 lbs. from Wisconsin.

BY some mistake between the printers and advertising clerk, the advertisement of friend E. H. Cook, Andover, Ct., was lost and did not appear in our last issue, as it should have done. We are very sorry to miss any advertisement the friends may send us, for it cuts off our own bread and butter, to a certain extent, and we should surely be "daft" if we did that purposely.

HENDERSON'S NEW BOOK.

BY purchasing in lots of 100 at a time, we are enabled to furnish Henderson's new book, "Garden and Farm Topics," now for an even dollar. If wanted by mail, add 10 cents for postage. This book ought to be worth many times its value to any one at all interested in the modern improvements in gardening and horticulture. If you have not even as much as a quarter of an acre of ground, if you like to see plants grow, it may be interesting to you to know what is being done nowadays on just a little bit of ground, with modern methods of working.

MORE ABOUT THE POTTED STRAWBERRY PLANTS.

AFTER the little roots had got nicely rooted in the pots, I took a couple of them for an object-lesson at our noon-service. When I had explained the process to the boys and girls, I showed how the little rootlets had gone through the bottom of the pot, and all in only about ten days, and then I tipped the pot over, turning out the little ball of earth with a network of little white rootlets covering the whole surface of the soil, where it had come next to the pot. After they had been passed around and admired, they were set on the dining-table, kept around the house for a couple of days, and then planted out in the garden, and now they are as bright and thriving as one could wish, and one of them has started out a runner so that it may have a little plant of its own. Henry, the gardener, calls it "weaning" when they are first cut loose from the mother-plant, and he says they had better be shaded a day or two until they get fully weaned and able to go on with the business on their own account.

THE LITTLE WORDS *a* AND *the*.

PERHAPS many of the friends would be surprised if they knew how often we have troubles just because people so often either neglect these little words entirely, or else use them indiscriminately. With the present magnitude of our business, even during these dull months of the year, it is impossible for us to remember correspondence as one might be expected to do who attended to all his correspondence personally. Therefore it is of the utmost importance that customers, when ordering, should say whether their order depends on or relates to any previous correspondence. But, to get everybody to do this seems next to impossible. Our estimate-heads have the matter very plainly printed in large black letters, "This estimate must be returned with your order, or we can not hold ourselves responsible for errors in filling." Well, people do not return the estimates. They write away from home, or perhaps use a postal card. But even then, if they would say, "Send me *the* hive," we should at once infer it alluded to some particular hive, and the clerks would at once look for former correspondence; whereas, if the order read simply, "Send me *a* hive for the $3.50 inclosed," the most natural thing in the world would be to send the only hive in our price list at $3.50. I know, people get in a hurry; and I know what it is to have time to only scratch a line or two on a postal card; but, dear friends, do use the word *the* when you refer to some particular thing and some particular transaction, and the little word *a* when you refer in general terms to something we advertise and keep constantly in readiness to ship.

A VISITOR FROM PALESTINE.

MR. D. HOWARD, of Beaver Dam, Wis., who has just returned from a trip to Palestine and Jerusalem, is stopping with us for a day or two. Friend H. left Palestine with 173 Palestine queens, and reached America with only twelve living. The above ought to be a caution for those who are inexperienced, who think of undertaking to import queens on a large scale. He visited the apiary of the Baldensperger brothers, of whom our friends will find a mention on page 453. These brothers have had a bonanza during the past spring at their apiary at Jaffa. With only between 50 and 60 colonies they have taken 5800 lbs. of honey, mostly from orange blossoms. Friend Howard has brought a specimen bottle of orange honey, and we here pronounce it equal to any honey produced on the globe. It may be that the orange honey of Florida is not extra nice; but that obtained on the shores of the Mediterranean is first class in every respect—nice color, good body, and exquisite flavor. I am very glad indeed to get the above report, for we have not had any very flattering results reported before, if I am correct, from the Holy Land or that vicinity. During 16 days in the height of the season, the brothers obtained 5200 lbs. I hardly need tell you that our boys have taken these Palestine queens in hand, and that we shall have untested queens for the friends who want them, just as soon as two large apiaries and old hands at the business can get them ready. As Neighbor H. has already a fine stock of Holy-Land drones in his Holy-Land apiary, he will take the greater part of the Palestine queens. Friend D. will gladly furnish information relative to his trip, if desired.

REMINDERY.

HOW LATE WILL IT DO TO BEGIN?

THIS question keeps coming up continually—"Can I build up a nucleus now?" or, "Will it do to take bees that are to be brimstoned, and give them an Italian queen, and can it be done safely?" In considering these questions, I am reminded what Peter Henderson says about starting strawberry plants in pots—the quicker you can get them going, the better. But you can keep on just as long as the weather is warm enough to have the plants grow, and get root enough to stand through the winter. Of course, the latter would not give much of a crop next year. Well, now, it is so with the bees. You can take a nucleus, and build it up almost any time when the weather is warm enough for the bees to fly. But the great thing is to get a good healthy queen and a good healthy condition of brood-rearing; then if they do not find honey to gather in the fields, feed them sugar syrup. I would use nothing now but syrup from granulated sugar,

APIARY AND IMPLEMENTS FOR SALE.

I offer for sale my apiary and implements, consisting of 90 colonies of bees on straight, nice combs, made from foundation. The apiary is run for extracted honey, and has surplus combs for second-story. Extractor, honey-tank of 1200 lbs. capacity, wax-extractor, lamp nursery, and most of the tools and conveniences found in a well, conducted apiary. I want what the hives, combs, honey in the hives, and implements are worth. Will give away the bees to the purchaser of these. Will also sell with apiary, if desired, a small farm of 28 acres. The location is a good one for an apiary; near a grove with plenty of basswood. There is also an abundance of white clover. The dwelling is about 20 rods from a schoolhouse. For further particulars, address J. B. COLTON,
16d. Waverly, Bremer Co., Iowa.

IF YOU WANT a nice tested Italian queen, send $1.50 to J. F. HIXON, Lock 53, Washington County, Maryland, and you will get her by return mail. 16.

FOR SALE!

12 colonies bees, with goods, advertised in GLEANINGS, Aug. 1, page 537, for 20 per cent discount. Who wants them? W. C. LESTER,
16d. Washington Hollow, N. Y.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

HEADQUARTERS FOR TIN POINTS.
Pride, 20 cts. per 1000 by express; by mail, 30 cts.
16d W. C. GILLETTE, Le Roy, Genesee Co., O.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have a very nice lot of tested and untested black and hybrid queens, which I would sell at a very low price. 14-15-16
G. W. ALBRECHT, Dundas, Calumet Co., Wis.

I have a few tested black queens, which I will sell for 20 cts. each, if taken soon.
W. T. WHITE, Cutler, Perry Co., Ill.

I am going to Italianize an apiary during August, and will offer for sale from 1 to 40 hybrid queens, bred from an imported queen; price 50c each; safe arrival guaranteed.
F. H. SCATTERGOOD, Winona, Col. Co., Ohio.

I have about 30 fine, large, pure black queens, which I will sell for 50c each in August or Sept.
OTIS N. BALDWIN, Clarksville, Pike Co., Mo.

I have 4 or 5 hybrid queens for sale at 30 cts. each. They are very prolific layers.
E. H. COOK, Andover, Conn.

We shall have continually on hand a large lot of black and hybrid queens. Price as follows: Blacks, 25 to 30 cts.; hybrids, 50 and 60 cts. Many of these queens have given us 150 to 200 lbs. of honey in one season. S. D. RUTHERFORD & BRO.,
Kearneysville, Jefferson Co., W. Va.

I have some hybrid queens I will take 50 cts. each for; safe arrival guaranteed. D. MCKENZIE,
Carrolton Station, New Orleans, La.
August 9, 1884.

I have four black and five hybrid queens to dispose of at your prices. Three of the hybrid queens are well marked, but the yellow bands are a little dark. WM. E. MAISON,
6901 Woodland Ave., Philadelphia, Pa.

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

IMPROVED SMOKERS with handle, $1.00. Samples of either S. S. Cards, Christmas, Advertising, Birthday, or Visiting Cards, 10c. Write for price list of fret-saw designs, Microscopes, etc.
J. L. HYDE, Pomfret Landing, Windham Co., Ct.
16-18-20-22-24d

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50 COLONIES OF
ITALIAN and HOLY-LAND BEES

In Simplicity Hives

FOR SALE CHEAP

DURING THE MONTHS OF AUGUST AND SEPTEMBER. ADDRESS

JOHN HARDLEY, 175 Wellington St., Stratford, Ontario, Canada.
16-17-18d

NEW LANGSTROTH OR HEDDON HIVE,

Two cases, filled with 56 white poplar dovetailed sections, $2.50. White poplar dovetailed sections, 7 or 8 to foot, per m., $6.50. Comb fdn. for brood-chamber, per lb., 50c.; light, 60.

J. J. HURLBERT,
LYNDON, - - - ILLINOIS.
15-tfdb.

HIVES. 1884. HIVES.

SEND for new price list of supplies for the apiary. Hives by the 100 in flat cheap, and best quality. Also rakes and cradles. White's pat. wire brace rake, best and most durable. Send for price by the dozen.

A. D. BENHAM, 10tfd
OLIVET, : EATON CO., : MICH.

SAFE INTRODUCTION GUARANTEED BY use of Safe Cage. In July and after, price of untested Italian queen $1.10, or without guarantee, but in Safe Cage, $1.00. See June advertisement. Circulars free.
S. A. DYKE,
13tfdb. Pomeroy, Ohio.

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any late number of GLEANINGS previous to May 15. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the, and, that, ing, tion,* etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb. A. I. ROOT, Medina, Ohio.

ITALIAN AND HOLY-LAND QUEENS.

Fine Queens of Either Race, Bred from the Best Imported Stock.

NUCLEI OR FULL COLONIES.

Address W. B. COGGESHALL, Supt.,
15-16-17d Hill Side Apiary, Summit, Union Co., N. J.

DURING AUGUST AND SEPTEMBER I will furnish pure tested
CYPRIAN $2 QUEENS
For $2.00, Absolutely Pure. Address

B. F. CARROLL, - Dresden, Navarro Co., - TEXAS.
[Safe arrival and satisfaction guaranteed.] 15tfdb

J. W. ECKMAN,

RICHMOND, FORT BEND CO., TEXAS,
DEALER IN

PURE ITALIAN BEES AND QUEENS.

7tfdb *SEND FOR CIRCULAR.*

PACKAGES FOR EXTRACTED HONEY!

— MANUFACTURED BY —

WM. ÷ WEEKS,

ALBANY STEAM TIN-WORKS,

NO. 2 DIVISION ST., ALBANY, N. Y.

Pails that are very desirable to housekeepers after they are emptied, and in great demand by the honey trade.

1	Pound Honey-Pails	
1½	" " "	1 Pt.
3	" " "	1 Qt.
6	" " "	½ Gal.
12	" " "	1 Gal.
25	" " "	2½ Gal.

ANY OTHER SIZES MADE TO ORDER.
12-tfdb.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfdb JNO. VANDERVORT, Laceyville, Pa.

Italian Queens!

Tested, $2.00; untested, $1.00; raised from imported mothers.
AMOS BLANK,
13tfdb. Woodville, Sandusky Co., Ohio.

WARRANTED ITALIAN QUEENS.

$1.00 Each: 6 for $5.00.

Send for circular. CHAS. D. DUVALL,
14tfd Spencerville, Mont. Co., Md.

Bright Italian Queens!

Beautiful golden-colored bees, very gentle, and excellent workers. Queens large and prolific. Untested queens by mail, $1.00 each. Tested queens, $2.00. Extra tested for queen-raising, $3.00. Address
DR. A. P. COULTER,
13-18db. Marissa, St. Clair Co., Ill.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

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WIRE CLOTH FOR BEE-KEEPERS,

AT GREATLY REDUCED PRICES.

By taking a very large stock of wire cloth from the factory, we have been enabled to give the following greatly reduced prices:

DARK-BLUE WIRE CLOTH, ESPECIALLY FOR QUEEN-CAGES.

This has 12 meshes to the inch, and is considered better for queen-cages than any other shade, because the eye detects bees and queens inside quicker. We have it in three different widths—24, 30, and 36 in.; price is 3c. per sq. ft.; 28c. for 10 sq. ft., or $2.50 for a roll containing 100 sq. ft.

WIRE CLOTH PAINTED GREEN.

We never have had any objection to this kind of wire cloth, except that bees are not as readily seen through it as in the other. We have it in rolls 24, 26, 28, and 30 inches wide, for 2¼c. per sq. ft. *in whole rolls.*

1 roll, 24 in. wide, containing - - - 180 sq. ft.
25 rolls, 26 " " " - - - - 215 "
4 " 28 " " " - - - 210 "
1 roll, 30 " " " - - - - 225 "

JOB LOT OF GREEN WIRE CLOTH.

Any of the pieces mentioned below will be sold @ 1½c. per sq. ft., providing a whole piece is taken. We have in stock, whole pieces as follows:—

1 roll, 24 in. wide, containing 200 sq. ft.

2 rolls, 25 in. wide, containing respectively, 97, and 250 sq. ft.

7 rolls, 26 in. wide, containing each, 35, 65, 160, 180, 200, 200, and 250 sq. ft.

1 roll 27 in. wide, containing 170 sq. ft.

10 " 28 " " " respectively 62, 90, 90, 160, 200, 240, 240, 240, 250, and 275 sq. ft.

4 rolls, 30 in. wide, containing respectively, 90, 150, 200, and 200, sq. ft.

2 rolls, 31 in. wide, containing respectively, 35 and 190 sq. ft.

1 roll 36 in. wide, containing 120 sq. ft.
1 roll 37 in. wide, containing 135 sq. ft.
1 " 40 " " " 135 "

A. I. ROOT, - - MEDINA, O.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column, 3btfd

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Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2.00 per year.

Those whose names appear below agree to furnish Italian queens for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 13tf
*Paul L. Viallon, Bayou Goula, La. 13tfd
*S. F. Newman, Norwalk, Huron Co., O. 13tfd
*Wm. Ballantine, Sago, Musk. Co., O. 13tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 15tfd
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3
*S. G. Wood, Birmingham, Jeff. Co., Ala. 13tfd
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*J. W. Keeran, 106 Washington St., Bloomington, McLean Co., Ill. 7-17
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5
*S. C. Perry, Portland, Ionia Co., Mich. 15tfd
C. Weeks, Clifton, Wayne Co., Tenn. 9-19
Will True, Chadwell, Clatsop Co., Oregon. 9-7
W. H. Proctor, Fair Haven, Rutland Co., Vt. 9-17
Theo. G. M'Gaw, Monmouth, Warren Co., Ill. 11-21
*D. M. Weybright, New Paris, Elk. Co., Ind. 11tfd
*B. W. Harrington, St. Catherines, Ont., Can. 13-23.
Jas. O. Tracey, New Hamburg, Ont., Can. 13tfd.
*F. S. McClelland, New Brighton, Beaver Co., Pa. 13-17
*S. P. Roddy, Mechanicstown, Md. 13-17d
*F. L. Wright, Plainfield, Livingston Co., Mich. 13-15d

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 13tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
C. P. Bish, Petrolia, Butler Co., Pa. 9-23

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have 15 or 20 queens, good, but not pure (hybrids). I will sell for 20 cts. each.
W. A. SANDERS, Oak Bowers, Hart Co., Ga.

I have six young hybrid (Italian) queens, which I will sell up to Oct. 10, at 40 cts. each. Blacks, 20 cts. Safe arrival guaranteed.
J. H. JOHNSON, Middaghs, Northamp'n Co., Pa.

I have now about 8 black queens that I will take 30c for.
A. B. JOHNSON, Elizabethtown, Bladen Co., N. C.

I have a few hybrid queens which I will sell for 35 cts. each.
L. HEINE, Bellmore, Queens Co., N. Y.

HONEY COLUMN.

CITY MARKETS.

New York.—*Honey.*—There is no material change in our market. Old comb honey of all grades is mostly sold out; have not received any new comb thus far, but are expecting a lot of fancy white in 1-lb. caps, unglassed, to arrive about Sept. 1st. We quote same at 22c per lb. Extracted clover and basswood is arriving slowly, but in good demand.

Beeswax is still declining in price. We quote prime Southern, 29@30c. Thurber, Whyland & Co.,
Aug. 25, 1884. Reade & Hudson Sts., N. Y.

[I should say, that 22c for 1-lb. sections is pretty encouraging. With us, we pay from 15 to 16c. and sell from 18 to 20c. I should think there are plenty among our bee-friends who can fill the market in New York at much less than the above figures.]

Cincinnati.—*Honey.*—There is no change to note in the honey market. The retail demand is very slow yet. Last month's report answers well now.

Chas. F. Muth,
S. E. Corner Freeman and Central Ave.,
Aug. 23, 1884. Cincinnati, O.

Detroit.—*Honey.*—The honey market shows no life yet. A small amount is moving at 14@16 cts.

Beeswax, scarce at 30 cts. A. B. Weed,
Aug. 26, 1884. Detroit, Mich.

Chicago.—*Honey.*—Honey is selling slowly. There does not seem to be any disposition amongst dealers to buy for winter use. The receipts on the street are quite large, and nearly all commission houses have a few cases. About 14 to 15 and 16 cts. the range for choice comb honey. Extracted very dull.

Beeswax, 30 to 32 cts. R. A. Burnett,
Aug. 26, 1884. 161 South Water St., Chicago.

St. Louis.—*Honey.*—Extracted honey in barrels is worth from 5½ to 6 cts.; in cans, 7½ to 10 at retail. Trade very dull. White-clover comb honey is now inquired for; none in the market. Would sell at 16 to 17 cts. retail. Dark honey not wanted.

Beeswax remains unsettled in value. Mixed, to-day worth 25 cts.; choice yellow, 28.

W. T. Anderson & Co.,
Aug. 26, 1884. 104 N. Third St., St. Louis, Mo.

Milwaukee.—*Honey.*—This market on honey is only fair, the demand being very moderate, as too much green fruit tempts the appetite. Later, the demand will be more urgent. The supply is fair enough for current wants, and quote choice white comb, 1-lb. sections, in cases, *new*, 14 @ 15 cts.; comb, 2-lb. sections, old, 10@12½; dark comb not wanted.

Extracted, white, 8½@9 cts.; dark, 7@8.

Beeswax, 28@33 cts. A. V. Bishop,
Aug. 26, 1884. 142 West Water St., Milwaukee.

Kansas City.—*Honey.*—I have to report a little easier feeling in the honey market. Dealers generally have an idea that the crop is large, and are not willing to buy more than for present demands, which are as yet comparatively light. Then, too, the immense crop in California, and low prices there, have a tendency to equalize the eastern markets. Crops, except in the extreme east, I think, are not so light as is supposed, and there will be no scarcity in the Mississippi Valley. My last quotations are hardly sustained this week. I am trying to hold this market up, but small buyers are quoting country prices on me that compel some concessions. I think our bee-keepers will find it good policy, in quoting prices to these occasional buyers, to hold a stiff margin of 2 or 3 cts. on them; and when they do make a sale, it will count to their profit. But when they quote prices, or make sales at about what their commission merchants or large buyers are getting, these fellows use it to beat down the prices in the regular channels, and it only reacts on the producer after all. I am in favor of the bee-keeper selling all he can around home, and anywhere else when he can get a good price; but if he places himself in the field as a competitor of the regular honey merchant, he only pulls down the market on his own head. Jerome Twichell,
Aug. 21, 1884. 514 Walnut St., Kansas City, Mo.

New York.—*Honey.*—As the new crop of comb honey has commenced arriving in this market, we send you the following quotations:

Fancy white comb in 1-lb. sections	18	@20
" " " " 2-lb. "	16	@18
Fair to good in 1 and 2 lb. sections	14	@16
Fancy buckwheat in 1-lb. "	12½	@13
" " " 2-lb. "	11½	@12½
Ordinary grades of dark in 1 and 2 lb. secs.	11	@11½
Ext. white clover, in kegs or small bbls.	8½	@ 9
Ext. buckwheat, in " " " "	6½	@ 7
Beeswax, prime yellow	30	@31

McCaul & Hildreth,
Aug. 28, 1884. 34 Hudson St., New York.

For Sale.—6000 lbs. white-clover honey, in good iron-hooped barrels, which I will deliver on car here in lots of one barrel or more for 8½c per lb.

James Nipe, Spring Prairie, Wis.

For Sale.—Extr'd white-clover honey; 7 bbls. of 500 lbs., and 17 kegs of 200 lbs. each, put up in good oak barrels. Will throw in barrels, and deliver at railroad depot, for 8 cts. per lb. The above honey was all cured and capped before being extracted, and is very nice. F. W. Holmes,
Coopersville, Ottawa Co., Mich.

NOTES FROM THE BRIGHT-BAND APIARY ABOUT THE COMING BEE.

Kind friends, I am glad to state that I never sold queens that gave as much satisfaction as does the cross between Italians, Cyprians, and Holy-Lands. They are undoubtedly less apt to sting than any race of bees; and for honey, I shall not hesitate for a moment to state that they beat them all; and for beauty, I only ask you to send two letter stamps for a sample of live workers, and see for yourself. I can also furnish the very best queens, raised from imported Italians, to those who prefer them. Price of either race, untested, but laying, 90 cts. each. Tested, $1.50 each. Full instructions sent with each queen, and safe arrival guaranteed.

Who will send $50 for 100 untested queens, and give me 30 days in which to fill the order? Or who will send me $30 for 50 on same terms? I would most probably begin to send some on receipt of order. All over two orders for 100 will be returned.

CHAS. KINGSLEY,
15-tfdb. Benton, Bossier Co., La.

P. S.—There is no foul brood in this State, that I know of.

---

25 HYBRID QUEENS for sale. Bred from pure mothers. Price 25 cents each. Safe arrival. Address J. W. CRENSHAW,
Versailles, Woodford Co., Ky.

FOR SALE.

Any one wishing to purchase a 40-acre farm, including 100 colonies bees, mostly Italians, very cheap, on easy terms, had better call on or correspond with undersigned. Would exchange for property in town; Michigan preferred.

17d A. A. COUEY, Port Andrew, Richland Co., Wis.

FARM FOR SALE.

I offer a good farm for sale, 125 acres, good buildings, on a good turnpike road, very desirable neighbors, and in an excellent locality for bees and honey; white clover and forest pasture in abundance. This is not only a good locality for bees, but is healthy; pure water, and church and school facilities fully up to the average in the State. Terms fair, and title perfect. Address or apply to

SAM'L G. HILLIS,
14 15-17d Concord, Lewis Co., Ky.

PAPER HONEY-BOXES for any, with one-pound sections. Shipping-cases for comb honey. Fifty colonies Italian Bees for sale.

16-17tfd M. ISBELL, Norwich, N. Y.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES, HONEY, & HOME INTERESTS.

Vol. XII. SEPT. 1, 1884. No. 17.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

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NOTES FROM THE BANNER APIARY.

NO. 58.

A CORRECTION.

IMPROPER punctuation perverts the sense of the beginning of the second paragraph of my last article. It should be as follows: "Three years ago I buried 11 colonies; all except one very weak one came through in fine condition."

RAISING COMB HONEY.

I do not *advise* waiting until the bees *are* hanging out before putting on boxes, even if I did succeed so well when compelled to wait; but I *would* advise waiting until the bees are ready *to begin to hang out*. You, friend Root, speak of waiting so long that the swarming fever might be started. Well, what if it *was* started; would that be undesirable? Until the present season I have always secured more honey from those colonies (and their increase) that swarmed than from those that did not, and the reason why I did not this season is because the honey harvest was very short and very early. The increase, however, is worth more than the difference in the amount of honey stored, while, if there should be a good yield of fall honey, the tables might yet be turned in regard to the amount of honey secured. Friend Doolittle, in the Aug. 1st No., says: "But when working for comb honey, both of these colonies would get strong enough so as to get the swarming fever right in the honey harvest, which would spoil all prospects of any surplus comb honey." It wouldn't with *me*. I don't care when a colony swarms; if it swarms only *once*, I can get the comb honey all the same, and I have no trouble in so managing as to prevent all after-swarming.

You say that you are a little anxious to know how many colonies I have now working for comb honey, and about how much comb honey I shall get. I worked 68 colonies for comb honey, and have secured about 4700 lbs.; and all gathered from a white-clover crop that was cut short by the drought. No honey from basswood.

You say, "Admitting that separators can be dispensed with, will all bee-keepers be likely to agree that it is more profitable to dispense with them than to keep them?" It is not at all likely that *all* bee-keepers will, as some are so wedded to their fixtures and methods that it would be almost impossible to induce them to even *try* some better method.

You say, in substance, that, if we reduce the section in thickness we must increase it in size, otherwise the Simplicity section will not weigh a pound. If we reduce it only the thickness of one bee-space, and dispense with separators, the comb will be of exactly the same thickness. During the past two seasons I have used 4000 sections 1 11-16 inches wide; or, to be more exact, 1 5-7 inches, which is a trifle more than 1 11-16, and such sections *average a pound*; while there is really so little difference, so far as securing straight combs is concerned, in favor of the 1½-inch sections, that I should adopt the 1 5-7 sections if the bees did not ripen the honey and seal it up so much quicker in the thinner combs. There is more difference in this respect, between these two sizes of sections, than there is in the straightness of the combs. I have this year used several thousand of 1½-inch sections, without separators, and they average a trifle over ¾ of a pound each. I think that they will be a nice thing for the retailer, as they *look* as though they contained *almost* as much honey as a pound section. I have not yet, however, succeeded in securing any more for them than for pound sections.

Since writing my last article I have received quite a number of cheering letters, of which the following are fair samples:

W. Z. Hutchinson:—Your article in Aug. GLEANINGS is just to the mark. Separators *are* a nuisance. I would not use them if they were given to me and $10.00 besides. I use the Heddon hive complete; have used it five years, and tested it by the side of other hives in which separators were used, and I had more incomplete combs in the pound sections, in *one* season, in the other hive, than I had in the Heddon case in five years. I can take the sections out of the Heddon case in one-fourth the time that I can out of other hives. I raised 900 lbs. honey this season in pound sections, and have not one bulged comb, and I used only a "starter" of foundation.

JOHN W. STURWOLD.

Haymond, Ind., Aug. 9, 1884.

W. Z. Hutchinson:—I want to express my thanks for your article in GLEANINGS of Aug. 1st, especially for the part on sections and separators. I have been trying broad frames and separators, and case methods, and found none that suited me until I tried the Heddon case. I first tried sections two inches wide, but found that they would not work; and when I tried them only 1½ inches, I thought, at *first*, that I had found a "bonanza;" but when I found that they weighed only ¾ of a pound, my ardor cooled. I think we must either increase the size or the width, for ¾-lb. sections are not the *thing*. I think they ought to be exactly one pound. The idea that thin combs are sealed over quicker, is a good one (I have noticed the fact in running for extracted honey), and, in view of this, would it not be a good plan to increase the size of the sections?

You speak of 28 sections filling a case; how is that? If you use 1½ sections, why do you not use ½-inch sides to your cases, and make them 15⅛ in. wide, and put in 40 at once?

You are sound on the time to put on sections; just before the bees begin to hang out is the nick of time. You are also right on the size of fdn. No scraps nor odds nor ends will answer.

I have three apiaries, of 54, 52, and 42 colonies respectively, from which I have received 3000 lbs., 4500 lbs., and 5500 lbs., or 13,000 in all. The best yield was from those having the best access to basswood.

C. A. HATCH.

Ithaca, Wis., Aug. 5, 1884.

I am opposed to increasing the *size* of the sections. I wish, if possible (and it is), to adhere to the 4¼x4¼ dimension. Machinery for making sections is adapted to this size, as are also our fixtures, shipping-crates, etc.; besides, large thin combs are more liable to damage in shipment. Let friend Hatch try some sections 1¾ inches wide without separators, and, if he observes the other conditions that I have mentioned, he will have some well-filled sections that will weigh a plump pound, and the combs will be straight too. By the way, there was one quite important item that I neglected to mention in my former article, and that is, that Given fdn. is less apt to bend, curl, or warp, than that made with rollers.

In regard to 28 sections filling a case. They were *not* 1½-in. sections; they were pound sections, 1 5-7 inches wide. My hive is an eight-frame hive, and the case that contains the sections is a plump foot wide inside. The sides of the case are made of ⅜-inch stuff.

W. Z. HUTCHINSON.

Rogersville, Mich., Aug. 21, 1884.

P. S.—A. C. Kendel, of Cleveland, has sold 1000 lbs. of honey for us this season. I wrote, a few days ago, asking how it would compare with honey built between separators. Inclosed you will find his reply, which came to hand after the above was written. I wish you would publish it, not only because it proves how nicely honey *can* be raised without separators, but because it contains some excellent advice.

W. Z. H.

Mr. W. Z. Hutchinson:—Your favor of the 15th at hand. In reply to your question as to how it compared with other lots received thus far, we must say, without prejudice, that we thought it a little nicer than any lot of honey received to date. We do not think it was better because made without separators, but is was more uniformly white, selected very carefully, crated very nicely, and pleased the purchasers exceedingly. If you had not mentioned it, we should not have known that it was produced without separators. We wish all the friends would exercise equal care in marketing their productions. Very frequently we have to remonstrate with persons for the carelessness with which they manage their goods. After it has taken them a whole year of preparation and waiting to produce them, they will tumble them into some kind of a receptacle, throw it into their wagon and rush their horse to market or the nearest station, at its greatest speed. In this way what would be the profit is lost by the lower price the goods have to be sold at.

After exhibiting the honey, and in case you should find no better market, you can send it by freight at any time, and we shall do our best for you.

A. C. KENDEL.

Cleveland, O., Aug. 19, 1884.

Friend H., after reading your article I felt particularly happy about something, but I could not tell what it was until some time after I got through. It was an idea that was suggested by your remark, that 1½-inch sections average a trifle over ¾ of a pound each. Now, the readiest way to get ½-lb. sections, for which there is already quite a little demand, will be to make them so narrow that they fill the bill. If anybody has told just what this width should be, I have not noticed it.—I am very glad indeed you have again demonstrated that you not only teach well, but practice well also. I am glad of further evidence showing that you can manage without separators. Friend Kendel is one of my particular friends, and we regard him as the best of authority.—We can furnish sections to hold ½ lb.—that is, provided somebody tells us just how thick they want to be—or ¾ of a pound, or a whole pound. If any of the friends have got ½-lb. sections made in the way I have suggested above, I will pay them for all time and trouble in showing us a case or two for sample, so that we may see just how they look, and know just how wide to make them. For orders received during this fall, we will make such sections for $3.75 per thousand.

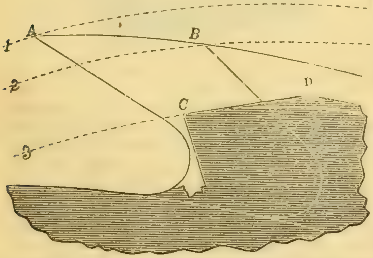
HOW TO FILE A CIRCULAR SAW.

THE KIND OF FILE NEEDED, TO DO IT PROPERLY.

AS many of our readers are well aware, we do a very large business, both by mail and express, on files for filing circular saws. We were among the first to introduce the "cant" file, so made that the file itself gives the tooth the proper pitch. To give this pitch, however, it must be held properly, and instructions for doing this are given in the A B C book. Well, quite a number of the friends have complained that many of the cant files would soon get dull on the sharp knife-edge corners, and unless this corner could be made to cut, the file was comparatively useless. It is true, I have suggested in the price list the use of a rough file for cutting down in the throat at the root of the tooth, so that the cant file might still be used. Cutting down the throat with a round file also serves another purpose: It makes the corner round instead of sharp, In the engraving below, which we copy from Disston's "Lumberman's Hand-book," you will notice about the shape the throat should be. When made round, as shown below, it is much less liable to fill up with gum and sawdust from the lumber. Sharp corners are always out of place in metal work or machinery, when they can possibly be avoided; and for the tooth of a circular saw, a round corner or curve gives a much stiffer tooth, besides this matter of filling up with dust. Well, last spring it struck me, that, by having our cant files made with this corner rounded, something like a rat-tail file, instead of being made with a sharp knife edge, it would give the proper shape to the root of the tooth, and would, at the same time, remedy the trouble we often have, by having the teeth of the file on this knife edge crumble or break down.

We have been selling these files now for several months back. In order to get them we were obliged to order about $500 worth, that the file-makers could put in the requisite machinery to finish them this way without too much expense. We have them now, made 4, 5, 6, 8, and 10 inches in length, at prices respectively, 10, 15, 20, 25, and 35 cts. I presume I might get this idea patented, as it is, so far as I know, my own invention; but then, I think I would rather enjoy hearing you tell how much you appreciate the improvement, than to have a patent.

In regard to the matter of square corners, we copy the following from Disston's book, as mentioned above. He is speaking of the common way of filing a sharp corner:



PROPER SHAPE OF THE TOOTH FOR A CIRCULAR SAW.

Teeth filed with sharp, square corners at the bottom frequently break. It is lamentable to see this state of things when they can be so easily avoided.

We have thousands of dollars' worth of saws come to be repaired, that break in cold weather by reason of these sharp corners. They are ruinous to the saw in more ways than one. If you will see to having your saw's teeth kept in the shape they leave us, you will do away with this trouble and expense. The moment the teeth commence to get in bad shape, your saw begins to suffer in diameter, from the fact that the filer, wishing to get his points sharp too soon, files from the top instead of the face of the tooth. This does not help him one particle, but rather the reverse; and every stroke of the file on the top wears the saw away more than five strokes on the face or under side of the tooth.

The engraving of the Jones tooth will fully illustrate the evils of this pernicious and destructive practice.

In the cut above, Disston illustrates the shape of the tooth of a saw sent them for repairs. To avoid hurting anybody's feelings, he calls it the "Jones" tooth.

FILING THE TOP OF THE SAW-TOOTH, INSTEAD OF FILING ON THE UNDER SIDE, AS IT SHOULD BE DONE.

This kind of filing wears away the saw five times as fast, and consumes three times as many files as would be required to do the work properly. But these are only a portion of the evil results.

This engraving represents a full-sized tooth, accurately traced from a saw sent to us some time ago for repair. The teeth of this saw had been filed from the top instead of the face. Dotted line 1 strikes the point of the tooth at *A*, and shows the size or diameter of the saw when it left the factory. Dotted line 2 strikes the point of the tooth at *B*, and shows the size the saw would have been by filing back on periphery line, according to our directions. Dotted line 3 strikes the point of the Jones tooth at *C*, and shows how much he has reduced the saw by his fearful mode of filing. Take a pair of compasses and measure from *A* to *B*, and you will find exactly the same distance as from *A* to *C*; this, of course, presents the same amount of cutting surface in each instance, and yet in one case the saw has been filed down in size three times as much as the other.

Now, what has caused all this loss and trouble? Why, Mr. Jones has been filing from the *top* instead of from the *face* of his tooth. He has filed away and destroyed the useful portion of his saw, and retained that part which is of no earthly use to him, but is a positive injury. He has done three times as much filing as was necessary, and has consumed three times as many files as were required. He has left no chamber for circulation of dust; his tooth is higher at *D* than at *C*; thus instead of cutting his lumber with the point of his tooth, he scrapes it with the back.

If his saw never commenced to heat before, it will do so now. Mr. Jones sent it back to us with the remark, "*It won't saw.*" Now, sawyers are doing this almost every day, but seldom with the same perseverance as Mr. Jones. They generally stop about half way, and then send the saw to the manufacturer to be put in order.

FAILING QUEENS.

SOME OBSERVATIONS BY A CANADIAN FRIEND.

I WAS much interested with an article in GLEANINGS under the heading, "Are Queens Superseded only when They are Declining?" My case is something the same. July, 1883, I received a fine selected tested Italian queen from Mr. Jas. O. Facey, Ontario. Being quite a young A B C scholar, and having read about clipping queens' wings, I thought I would clip this queen's wings, that I might be sure to retain her, in case of swarming, as I had previously lost an absconding swarm; but not being accustomed to surgery, nor handling queens, I cut off about two-thirds of both wings. I felt sorry for my queen, and abashed at my own clumsiness. I introduced her successfully to a colony of blacks, and she proved an excellent queen, and soon the colony was ahead of the blacks. I wintered them successfully, and early this spring, toward the end May, I noticed one queen-cell sealed, although the colony was not in any condition like swarming.

On the 9th of June I found that a queen had emerged from this cell. I saw this young queen and the old one with clipped wings at the same time in the hive. I was doubtful of this virgin queen's future career, as there were no drones yet; and when I examined the hive three or four days later I found only the old queen. On the 21st of June I took this queen and put her with 1 lb. of bees in another hive, and soon this became a good colony; but I noticed several drones in worker-cells (as I used whole sheets of foundation in brood-frames). July was wet and cold, and no surplus honey. August brought finer weather. All went well until the 9th inst., when I was greatly surprised to know a swarm had issued from this colony. I had looked into the hive a few days before this, but did not notice a queen-cell. I said, "Well, the swarm will surely return, as the queen's wings are clipped;" but, return they did not, but settled in the worst position I thought they could find. While they were clustered I examined the hive, and I found two queen-cells sealed, but not my queen with clipped wings. I could not then account for the clustering, as I thought my queen had led the swarm off, and must have been lost, for it was impossible for her to fly at all; but I had to turn my attention to securing the swarm, which I did after a great deal of trouble and time. Having no other hive, and still thinking there was no queen in the cluster, I considered it best to return the swarm to the same hive, as there were queen-cells there. This I did, and judge my bewilderment when I saw a fine young queen marching into the hive. They were soon "at home" again.

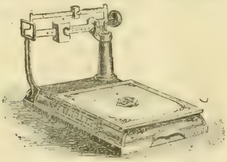
On the second day I examined the colony, and saw the young queen and the two queen-cells intact, but no eggs nor young brood; but I found a third queen-cell whence a young queen had lately emerged. Now, what puzzled me was, what had become of my queen with the clipped wings? and how to account for this strange behavior. I don't think she had been dragged out by the ear; she had not gone off with the swarm, as the young queen was there. This young queen and the two in sealed cells were not raised from worker-brood, but eggs deposited in royal cells. This swarming out was possibly due to there being no young brood in the hive when this virgin queen went off on her wedding-trip. Could it be that the old queen, from being maimed, had a presentiment of death, and that as soon as the colony was strong she would take her detour?

Quebec, Canada, Aug. 16, 1884. W. TRICKER.

SCALES FOR WEIGHING WAX, HONEY, ETC.

SOMETHING FROM FAIRBANKS FOR THE PURPOSE.

SINCE the arrangements have been added to the low-price spring scales for taking off the tare, the tare arrangement has got to be quite a necessity, and makers of all kinds of scales have felt obliged to add a double beam, or some other arrangement, whereby we can put a dish, pail, or barrel, on the platform, and, without the necessity of figuring, make the scale give the net weight of the contents alone.



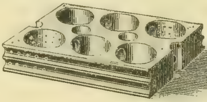
FAIRBANKS' HONEY-SCALE.

You will observe, by the cut, that the scale has a platform with a beam, much after the manner of ordinary scales. This beam goes up to 50 lbs., and as low as ¼ lb. Now, where we are weighing any thing as valuable as beeswax, one-fourth of a pound is almost too much to lose sight of; therefore for extreme accuracy a small beam is placed above the other, and this small beam weighs down to single ounces. The weights are both of the new kind, which can not be taken off. They slide back and forth on the beam, but can not slip off at either end. Who has not had trouble by weights being changed, or carried off for some purpose or other? At the right hand is a ball, and the scale may be instantly adjusted (if it should get out of adjustment) by turning this ball on the screw that supports it. We use one of them in our wax-room, and are much pleased with it. The price of the scale is $12.00. That is pretty high; but the Fairbanks scales are always high and—*accurate*, as long as there is any thing left of them.

MAILING QUEENS ACROSS THE OCEAN.

THE CAGE USED BY FRIEND BENTON.

TWO of these cages have been recently mailed us, and we have had an engraving made, as shown below. Friend Benton deserves the thanks of the bee-keeping world, and the letter at the close of this article pays him a just and deserved tribute. The cage is, I presume, entirely his own invention.



BENTON'S CAGE FOR MAILING QUEENS ACROSS THE OCEAN.

The cage is made of some tough wood resembling pine. The board is planed on both sides, and then cut up in pieces 2¾ x 4 inches. The cage shown contained two queens when it was sent. The holes bored in the piece of wood are 1⅛ inches, and are bored nearly through. They come so near each other that passages are cut with a penknife, connecting them; that is, each three are connected in this way. One of the holes at each end row of three is coated with melted wax, and then filled with the usual candy, made with powdered sugar and honey. No water is used, but abundant ventilation is given in several different ways. Only one of the three holes is ventilated, however; viz., the one in the end opposite the one containing the candy. The middle hole in each row has no ventilating-passages. It would seem that this affords the bees an opportunity of choosing one of the holes that is much ventilated, or taking the central, where there is but little ventilation. A few bees could keep pretty warm in one of these round holes, especially if they choose the one without ventilating-holes.

Our friends will notice that the cage is so made that, even when cramped among other packages in the mail-bag, the holes can not well all of them get closed. It is for this reason the grooves are made along the side of the piece of wood. Ten holes, about the size of an ordinary darning-needle, are pricked through from these side grooves into this end hole. The spur of the bit makes another hole. Fearing this might not be quite enough, friend B. takes another precaution. You will observe two smaller-sized holes near the center of the box. Well, these smaller holes are connected with a hole about as large as a gimlet would make, shown partly at one end of the block. This also comes out where the block is grooved or cut in. Five small holes are made through into this gimlet-hole, so these ventilating-vestibules at each end of the block are both ventilated from two sides in such a way that the ventilating-holes can not well get stopped up. A cover of wood, about ⅛ inch thick, is tacked over the hole when completed. I do not know how friend B. gets in his queen and bees, unless he lays the wooden cover on the block so as to partly close the holes, and then puts in the bees and queen one by one, after which he slides the cover on and fastens it with wire nails.

The question may be asked, why we should not adopt this in place of the cage we use for shipping queens. It is not suitable for introducing queens, as is the Peet cage. Although some failures are reported with the Peet cage, I believe the number is less with this manner of introducing, by far, than with any other cage we have ever used.

QUEENS SENT BY MAIL, ALL THE WAY FROM MUNICH, GERMANY.

I received, on the 23d of July last, two Italian queens by mail from Frank Benton. They were mailed June 30, and were 24 days in the mail. One was from Lombardy, and the other from Bergamo, Italy. Frank Benton wrote me on the same date by postal card, stating that he had mailed the queens, and that he had put a dozen young worker bees in each cage. When they arrived I took the cages into a close room and opened them. Both queens came out immediately, and flew around the room. The Bergamo queen was especially strong, flying all around the room without any sign of weariness, alighting on the window, where I captured her. The other one fell to the floor, but arose and alighted on the window. The Bergamo queen is dark, but has the largest and strongest wings I have ever seen on a queen. I introduced her into a strong colony of Italians in twelve hours, when she began to lay immediately. She is rather dark on her back, but the under side of her abdomen is of beautiful yellow. I hope that her brood will have wings strong enough to breast our prairie winds. I shall know in a few days what her queen brood will be like.

The Lombardy queen is a very fine one also; both appear, so far, to be very prolific.

In one of the cages, but four of the bees were dead, while in the other one but four were living. The food consisted of Good candy. There was no water at all. The food was in a one-inch hole ¾ in. deep. I send you the cage. It is a neat little piece of mechanism. Friend Benton has demonstrated that queens may be sent by mail long distances at very little expense.

The postage on the two queens was one mark 1 pfenning, or about 24¼ cents of our money. The bee-keepers everywhere certainly owe friend Benton a debt of gratitude for his efforts to discover new races of bees in the East, as well as his discoveries and inventions in shipping bees all over the world. His name in after years will certainly stand alongside of Hubert, Langstroth, or any others who have made the study of the honey-bee the business of their lives.

He speaks about the season in Europe this year, much as we have had in this country—cool and wet, with a very poor crop of honey.

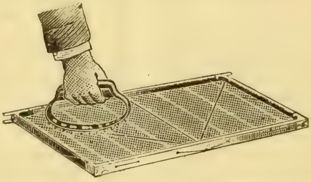
WILLIAM LITTLE.

Marissa, Ill., Aug. 6, 1884.

WIRED FRAMES.

HOW TO FASTEN THE FOUNDATION TO THE WIRES.

AFTER the illustration given recently of the Easterday foundation-fastener (or, rather, our modification of it), a good many are inquiring how it is to be used. The engraving illustrates it:



IMBEDDING WIRES BY MEANS OF THE EASTERDAY FOUNDATION-FASTENER.

The implement is made of such a size, that, rocking it from the first tooth on one side to the last tooth on the other side, goes across the frame from the top-bar to the bottom-bar. In the illustration the artist has shown it on one of the diagonal wires. To imbed these, of course it has to be set down twice. The implement pleases us the best of the many devices offered.

THE SEASON IN IOWA.

ALSO SOMETHING ABOUT THE AMERICAN BEE.

FRIEND ROOT:—We have had a long drought, and no honey for bees to gather. Beginners have been badly discouraged, though the season opened famously in the spring, and our bees got a good start on the fruit-bloom, followed by a few days of wonderful activity in gathering "bug juice," enough of which was secured to carry early and old swarms through the season of famine in good shape.

Within a few days we have had and are now having an abundance of rain; and when the weather will permit, the little fellows are just booming. At such times, could you hear the roar from my apiary you would think you were near a railroad, and a train were passing.

Apiculture, except upon the old brimstone plan, is quite a new industry in this section, but prospects are quite encouraging. Our season for honey-gathering is in August and September, and I think the honey comes largely from the heart's-ease, though figwort, spider-plant, and many others yielding honey grow wild or volunteer, and white clover is beginning to put in an appearance. Bees usually cast their first swarms in May; and when encouraged by feeding, have been known to do so in April.

In most apiaries you will hardly find two hives alike. People are beginning to inquire about the Simplicity hive, and order them to some extent, and I look to very soon see them used among us, superseding all others.

Honey finds a ready home market, at retail prices from 10 cts. for extracted, to 25 cts. per pound for choice in one-pound sections.

Bees are somewhat mixed, like the American citizen—German, Italian, Cyprians, Holy-Land, etc. It looks as if the American is the coming bee. None can tell his pedigree. It is liable to be a mixture of all—of composite origin, like all great races. He is larger than either pure breed, as is shown by the fact that, when loaded, he only with great difficulty, and after many fruitless futile attempts, can pass the drone-guard you sent me, while the pure bloods have no difficulty in passing. This superiority in size is also very apparent to the eye. He also has a better *temper* and better *sense*. He knows when the outdoor weather is bad for his health, and stays at home, and devotes his time to the proper instruction of the young bees. He also knows enough to "come in when it rains," which is more than I can say of those domesticated yellow-jackets, the Italians. But, I will confess that I like the Italians better than I did at first, and this year they are behaving quite well.

The first two years that I had the "pure three-banded Italians," one could not even look straight at them without having about a hatful dash into his face, even in the winter, when the weather was so cold that these bees would freeze and fall to the earth before they could return to the hive.

I think if any bee *does* gather honey to any great extent from red clover, he must be an American. The pure breeds can't do it, and don't under ordinary circumstances.

I think motherwort, *Leonurus*, the best artificial pasture we can have for bees, as they worked this season steadily upon it when nothing else offered to yield any honey, nor do they desert it when honey is plentiful.
JAMES H. WING.

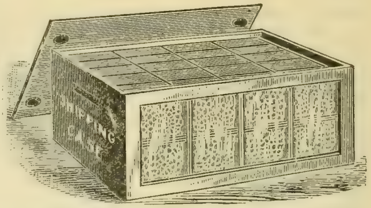
Malvern, Iowa, Aug. 25, 1884.

* * *

CRATES FOR SHIPPING HONEY, AND CRATES FOR HOLDING SECTIONS OVER THE HONEY.

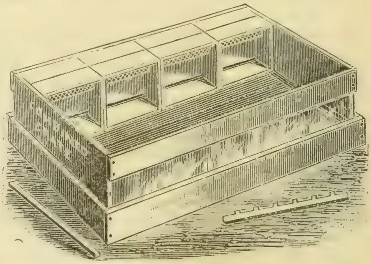
ALSO SOMETHING ABOUT CALLING THINGS BY THEIR RIGHT NAMES.

MORE than one of the friends have had vexations and disappointments within the past year or two, in ordering the articles figured here. When one-pound sections first began to be an article of traffic, we got out a case to hold them conveniently; and for convenience we made this case in two sizes—one size to hold 24, and the other to hold 48 one-pound sections. These cases were also recommended for the grocers to keep on their counters to retail from; and with this end in view they are made with glass sides, as shown in the cut. Of course, quite a trade sprung up in them, and we began to manufacture them by the hundreds and thousands. A 48-lb. case is figured above :



SHIPPING AND RETAILING CASE FOR 48 ONE-POUND SECTIONS.

Well, after a while somebody wanted a crate to hold sections right over the hive, where the bees could get right up and fill them, and they wanted them so made that, when filled, this crate could be taken right off and sent to market, honey and all, without repacking. Pretty soon a brisk trade sprung up in these, and then there began to be confusion. Some friend wanted a lot of cases, and, forgetting to call the article by the name in the price list, he got crates, and *vice versa*. In order to prevent confusion we changed our price list and our A B C book, where they needed change, so as to always call one a case and the other a crate. But we have the same difficulty still, and I hardly know of a remedy, unless we try to observe this distinction in speaking of the two articles; viz., call the painted box for sending honey to market, and to set in a grocery, a case, for it is in reality a small show-case; and likewise to be sure to say *crate* when you are talking of the box that holds sections ready to be placed over the hive. For convenience in seeing when the sections are full, we put a strip of glass about two inches wide along each side of the crate as well as the case.



COMBINED CRATE, HOLDING SECTIONS ON THE HIVE, AND FOR SENDING TO MARKET WITH THE HONEY.

We call it "combined," because it is so made as to answer both purposes. As the sections in the crate are usually taken to market just as the bees fill them, there is no necessity for using separators, unless one chooses; but the same sections without separators would hold rather more than one pound, as has been fully explained and discussed elsewhere.

Now, then, friends, in ordering, please remember that a case and crate are two distinct and different things.

THE PATENT ON THE ONE-PIECE SECTION.

ALSO SOMETHING VALUABLE IN REGARD TO GETTING PATENTS IN GENERAL.

AS there are some valuable lessons to be gathered from the following papers, we have thought best to submit them to our bee-keeping friends. I know it occupies considerable space in our journal; but as there has been some discussion in regard to patents, whether it is advisable to expend money in getting them, and as to what constitutes a patentable invention, the information, I think, is well worthy of the place the papers occupy, even though they might otherwise be considered dry details. Friend Osborne wrote us in June as follows:

Friend Root:—I have had correspondence with a large number of bee-men at different times since taking charge of your case, and I have promised many to let them know "just the points made" in the Forncrook suit. I can not answer them; and as I thought it might be of interest to the bee-men generally, I inclose you a summary of my brief, made for Justice Stanley Matthews. If you think it of interest to the readers of GLEANINGS, publish it. If you think otherwise, put the MS. where you put spring poetry.

I wish you would express to the many bee-men who have cheerfully furnished me with information on the one-piece section, my thanks for their kindness and courtesy. J. A. OSBORNE.

Cleveland, O., June 12, 1884.

Below we give friend O.'s brief above mentioned, which was submitted to Justice Matthews:

OSBORNE'S BRIEF, AS SUBMITTED TO JUSTICE MATTHEWS.

CIRCUIT COURT OF THE UNITED STATES,
Northern District of Ohio.

JAMES FORNCROOK } Brief of J. A. Osborne
vs. for
AMOS I. ROOT. } Defendant.

The proof establishes the fact beyond question, that *all* the features of the plaintiff's device, to wit,

A blank formed of a single piece of wood (*A*) having transverse angular grooves (*c*) to form the corners and dentated ends (*a*);

Recesses (*b*) for the passage of the bees; and a longitudinal groove (*d*) for fastening in the guide-strip,—

Were old, and long in use, before his alleged invention.

IT IS A MERE AGGREGATION.

All that the plaintiff has done is to bring together in a single section, different features which were before scattered through several honey-sections. These several features, when thus brought together, do not perform any functions which they did not perform in former sections; and neither all of them together, nor any part of them, perform any *joint* function. It is a mere aggregation of devices, and can not be considered an invention.—Curtis on Patents, Sec. 111, c; Walker on Patents, Sec. 32; Hailes v. Van Wormer, 20; Wallace, 353; Beckendorfer v. Faber, 92, U. S., 357.

Your honor (Judge Matthews), in pronouncing the opinion of the court in Pickering v. McCullough (104 U. S., 310), said: "In a patentable combination of old elements, all the constituents must so enter into it as that each qualifies every other; to draw an illustration from another branch of the law, they must be joint tenants of the domain of invention, seized each of every part, *per my et per tout*, and not mere tenants in common, with separate interests and estates. It must form either a new machine (device) of a distinct character and function, or produce a result due to the joint and co-operating action of all the elements, and which is not the mere bringing together of separate contributions."

In the light of this opinion, and of the facts in this case, the complainant's device can not be considered an invention. The plaintiff admits, that the different features of his device perform no functions but what they formed in other sections theretofore made, and the evidence shows that there is no dependent co-operation existing between them. The patentee has "merely added together separate contributions."

IS IT A COMBINATION?

While we urge that it is a "mere aggregation," we think the most liberal construction the court can give the patent is, that it is for the combination. In determining whether a patent is for a distinct invention, or for a combination, no general rules can be laid down for guidance in questions of this kind, depending exclusively on the particular facts of each case. "There is, however, one circumstance that will always be decisive in construing a patent against a claim for the several things described in the specification, and that is, that one or more of them are not new. If this turns out to be the case, then the question will be, whether the patent can be sustained for the combination."—Curtis on Pat., Sec. 249; Neilson v. Harford, 1 Webs. Pat. Cas., 317.

As all the features of complainant's device are old, his patent can not be sustained for a distinct invention; and it must be sustained for the combination, if it can be sustained at all.

If the court should hold that the plaintiff's manufacture is more than a "mere aggregation," then the question will arise,

DOES THE DEFENDANT INFRINGE?

It is conceded, that the defendant has never made any sections with the longitudinal groove (*d*) in them. To this objection the plaintiff says, *first*, that this groove is immaterial; *second*, that if the defendant leaves out the groove, expecting his customers to supply an "equivalent," he can not thus avoid the plaintiff's patent, and he is guilty of infringing.

To the first proposition we say, that the patentee, by the restricted form of his claim, made the groove (*d*) a material part of his device, and the court can not declare that it is immaterial.—U. S. Rev. Stat., Sec. 4888; Water-meter Co. v. Desper, 101 U. S., 332, 337; Gage v. Herring, 107 U. S., 648. (See claim of patentee.)

The second proposition we concede to be good law; but as the manufacture of the defendant does not contemplate the use of any thing in the place of the groove (*d*), the question of "equivalents" is entirely out of the case.

In view of the facts in this case, and of the law as we understand it, we claim:

1. That there is no invention or novelty in bringing together the different features found in complainant's device;
2. That if the patent is sustained, it can be sustained for the combination only, and the defendant is not liable, because only a part of the combination is used;
3. That the complainant's device was anticipated by the Fiddes section, made from 1872, and by the Coltom and Cook sections, made from 1875 on; and, as shown by the cross-examination of the plaintiff's expert, Mr. Dayton, there is no substantial advance in the Forncrook section over the other one-piece sections named.

Respectfully submitted,
J. A. OSBORNE,
Of Counsel for Def't.

Cleveland, Ohio, June 6, 1884.

Amos I. Root: — I inclose you a copy of Justice Matthew's decision in case of Forncrook vs. Root. You will see that Judge Matthews gives Mr. Fiddes the glory of having invented the one-piece section. The good old honest farmer did not know, when he sat during the winter of 1872 making his "strawberry-box frames" that he had gotten up something that was to benefit the bee-world so much, and bring him into such prominence. If he had obtained a patent on the one-piece section at that time, it might have been good, and made the poor man rich. I hope the gratification he will enjoy from being accorded the honor of making the first one-piece section will pay him for the watermelons I ate at his humble home in the woods.

Cleveland, O., Aug. 15, 1884. J. A. OSBORNE.

DECISION OF ASSOCIATE JUSTICE STANLEY MATTHEWS, OF THE SUPREME COURT OF THE UNITED STATES, IN REGARD TO THE ONE-PIECE SECTION.

No. 4206.

CIRCUIT COURT OF THE UNITED STATES,
Northern District of Ohio.

James Forncrook
vs.
Amos I. Root.

In Equity.
Opinion of Justice
Matthews.

For Complainant, Wm. P. Wells, of Detroit; for Defendant, J. A. Osborne, of Cleveland, O., and M. D. Leggett.

This is a bill in equity to restrain the alleged infringement of Letters Patent No. 243,674, granted June 28th, 1881, to the complainant, James Forncrook, of Watertown, Wisconsin, for a new and useful improvement in Sectional Honey-Frames, and for an account, etc.

The claim of the patent is as follows: "As a new article of manufacture, a blank for honey-frames formed of a single piece of wood having transverse angular grooves *c*, longitudinal groove *d*, and recesses *b*, all arranged in the manner shown and described."

As set out in the specifications, "This invention relates to an improvement in sectional honey-frames, the object being to so construct them that they shall be stronger and in a more portable form than the frames now used for such purposes; and the invention consists, essentially, in forming the frame from a single blank or piece of material having all the necessary grooves and recesses required to form a complete frame cut in it, the ends of the blank being notched, or dentated, and angular grooves cut across it at those points which are to form the corners. These blanks, after being thus prepared, may be packed solidly in boxes or otherwise for transportation, and when required for use are bent into the square form, and their ends united at one of the corners by means of the interlocking notches, or teeth, thus forming a complete frame ready for use."

It is further stated, that "the blanks for these frames are preferably formed from some light, tasteless, and comparatively tough wood, which will bend at the corners without steaming or boiling, such as basswood or whitewood, the material being produced by cutting it from the log in the form of a thick veneer, or by sawing into thin stuff and then planing both surfaces. The blanks are then cut from this material, of the proper width and length, and the ends dentated, as shown at *aa*, by means of a series of circular saws placed close together upon an arbor or other suitable tool, so that they will interlock when brought together. The recesses *bb* are then formed in its edges at such points in its length as will bring them at the top and bottom of the frames when set up in the hive. These recesses form openings, which allow space for the passage of the bees between the frames, and for the ventilation of this part of the hive. Three triangular grooves, *ccc*, are then cut across the blank at such points in its length as will divide it into four nearly equal parts, each of which forms one side of the frame after the blank is bent into a quadrangular shape. These triangular grooves are cut nearly through the blank, sufficient wood only being left to hold the parts firmly together. As the sides of the grooves *c* are inclined toward each other at a right angle, it follows that, when the blank is bent into the form of a frame, these grooves make perfectly fitting miter-joints at three of its corners, the fourth corner being that at which the ends of the blank are united to each other by means of the interlocking teeth formed thereon. In one of the spaces between two of the grooves *c*, and preferably that which will form the top of the frame when placed in the hive, is formed a longitudinal groove, *d*, for the guide-strip, which makes a secure point of attachment for the comb when the bees begin to build in the frames set side by side in the hive with the parts of the frame containing the recesses *bb* at top."

"These frames," it is added, "meet a want long felt by bee-keepers, as those in common use are either dovetailed or nailed together at the corners; and if set up at the manufactory, form a large bulk for transportation, and are very liable to breakage in handling; but if sold to the user in pieces to be put together by him, the numerous joints to be made cause loss of time, and produce a very fragile article when finished, which loses its rectangular shape with the slightest rough usage, as the joints at the corners lack the necessary strength and rigidity to hold them in shape."

"My frame," the specification continues, "will be found to possess none of the above-named defects, as it is intended for transportation in solid packages before being set up, and when set up possesses great strength and rigidity, preserving its form without difficulty during all the rough handling to which such frames are frequently subjected."

The defendant denies infringement, and alleges want of patentable novelty in the alleged invention.

It is admitted, that the defendant manufactures and sells blanks for honey-frames, like those of the complainant, in all respects but one. They omit the longitudinal groove for the guide-strip for attaching a piece of comb as a beginning point for the work of the bees.

It is claimed by the defendant, that this omission is sufficient to distinguish his manufacture from that described in the patent, as it is contended that the patent is for a honey-section containing a combination of all the elements specified in the patent, so that each element, by force of the patent, has been made material to the alleged invention described and secured thereby.

It is insisted, however, on the other hand, that this is a misconception of the invention patented; and that "the patent," to use the language of counsel, is for "the construction of a blank completely adapted to form a honey-section ready for immediate use by simply bending it into shape, and joining its ends"—that is, the patent is not for a honey-section with all the features enumerated considered as a combination, but for the blank adapted for its construction, by simply bending and uniting the ends.

Conceding this to be the true meaning of the claim, it is necessary, to support the patent, to consider it as embracing the honey-frame, as thus formed and made, out of such a blank; for supposing the frame or section not to be covered by the patent, would leave as included in and covered by it merely the idea of leaving the blank in its condition as such, for the purpose of more convenient packing and transportation, to be formed by bending together and uniting its ends, by the purchaser for use, into a honey-frame. The embodiment of that single idea can hardly be supposed to be the proper subject of a patent. It is merely the adoption of a form for handling and packing, which is not regarded by the statute as an improvement in an art or manufacture.

If the patentee is entitled to claim the blank as a new and useful device, it is because it is a constituent of the frame or section into which it is formed by bending, no matter who bends it, whether the maker or the purchaser for use. And if the state of the art at the date of the alleged invention was such that the patentee can not claim as his invention the honey-frame or section when formed by bending and uniting the ends of such a frame, then he can not, for the same reason, claim as his invention such a blank for the purpose of forming it into a frame or a section.

The question, therefore, is, whether upon the evidence, at the date of the alleged invention, the manufacturer of honey-frames or sections, by bending and uniting the ends of a blank consisting of a single piece, substantially as described in this patent, was a patentable novelty.

Upon a careful comparison and consideration of all the evidence, this question must be answered in the negative.

Alexander Fiddes testifies to making and using honey-sections formed from a single piece, grooved, bent, and united at the ends, as early as 1872 and 1873, some of which he sold to others for use; and if those now made by the complainant under his patent are superior in any respect to those first specimens of the manufacture, it is merely in point of finish and workmanship. There is no difference whatever in principle, and the early examples were complete and practical frames, actually used and perfectly serving the purpose, so that they can not be considered as nude and imperfect experiments, subsequently developed into a successful manufacture.

This conclusion, indeed, is required by the production in evidence of the patent granted to Hutchins, of Dec. 8, 1874, No. 157,473, which is for a machine for the manufacture of just such blanks from the original log of wood, to be bent into form, and the ends united, so as to make the sides of a box for any purpose. The invention of such a machine, of course, supposes knowledge of the blanks it was designed to manufacture; and the transfer of the use of a box made from such a blank, from the ordinary purposes to the simple and special purpose of a box or frame for a honey-section, is merely a new use of an old and well-known article, which involves no invention.

It results from these views, that the equity of the case is with the defendant, and that the complainant's bill must be dismissed with costs; and it is so ordered.

[SIGNED] STANLEY MATTHEWS,
Associate Justice.

The friends of GLEANINGS who remember what I wrote about a year ago in regard to this matter will unite in thanks to God for having brought out the issue as above. The expenses of the suit have been a little over one thousand dollars; and although many generous friends have asked me when I got through to permit them to pay a share of the expenses, I have decided that I prefer to stand it alone, and I thank God for having placed it in my power to do such a service for the cause of bee culture. Many thanks to the kind friends who so willingly came forward with their offers of assistance. The thought of their kind words, and, in many cases, their prayers too, will always be a bright spot in my memory; and they have done much to cheer and encourage me when I felt troubled about entering into a lawsuit. I thank God, that contests of this kind bid fair to be less frequent than they have been, for our whole country is stirred up with indignation at the frauds that have been perpetrated under the guise of having a patent on something already in common use, and fully described in our periodicals. Of course, there may be an appeal, as intimated; but so long as I feel assured that our cause is a just one, we shall be ready to resist injustice still further, with the best talent the nation affords, and ample means.

REVERSIBLE FRAMES.

HOW OFTEN AND WHEN DO FRAMES NEED REVERSING.

AS stated in a former article, early this season I made up several thousand reversible frames; but owing to the unprecedentedly poor season for successful apiculture, I have not succeeded in getting quite half of them into use. We have been and are still experimenting with them; and hope by the end of the season to become practically and definitely satisfied regarding the advantages of reversible combs, versus extra cost and manipulation. Up to the present date, of course we have learned something and formed some conclusions, which seem of some value, and which I herewith offer to your readers.

I am getting to be a believer in the practicability of reversing surplus combs, though in the beginning I did not believe such practice advisable. I now think that reversing the sections tends to hasten their completion very materially; and also results in getting them more firmly attached to the section all around (greatly improving their appearance and shipping qualities), and I consider the accomplishment of these two points immense pay for reversing them, which we do by the case, keeping all bee-spaces as accurate as though no reversing had taken place. I wish to offer a few hints in regard to

THE PROPER TIME TO REVERSE

both brood and surplus combs. Regarding the reversion of brood-combs, for the purpose of getting the frame filled out snug all around, of course they may be reversed at any time after they are well drawn out, and attached firmly to the top-bar, and partially down the sides. (All our combs are drawn from full sheets of foundation, firmly secured to the top-bar, and wires woven through the frame.)

But there are other important objects in the use of reversible frames. As has been mentioned in this journal before, and by others, one important object is to get the brood-chambers solid full of brood (admitting smaller hives for the same size colonies), and the honey above in the surplus combs. Now, if reversing for this purpose is done during the time when the honey-flow is so excessive that the bees are inclined to clog the brood-combs with honey, regardless of giving the queen room for brooding, the reversing of that hive will only increase the difficulty, as at such times they will not carry the reversed honey up above, but leave it where you reversed it in the bottom of the frames, embracing the further opportunity of filling with honey the *new* upper portion of the frames. For that purpose we should reverse the frames either about a week before or just after the period of excessive honey-flow, when the bees give the brood-chamber preference for brooding purposes.

Exactly the reverse of this period is the proper time to reverse the surplus combs. At a time when there is any tendency among the bees to carry down their surplus, reversing will increase that tendency.

The surplus combs should be reversed at a time when the honey-flow is abundant, or when the queen is claiming full possession of the brood-chamber. With us, this gives us three periods in which we may reverse the surplus combs. First, earlier in the season, when the honey-flow is moderate, and breeding is in excess in the brood-chamber.

Second, when the honey-flow is abundant from the flowers.

Third, after this period, when the queen is again taking full possession of the brood-combs, *provided* at that time you also reverse *them*, and they are tolerably well filled with honey, which is always the case in this location immediately after the cessation of excessive honey-flow.

I would consider it unsafe to reverse the surplus combs just at this time, unless a tendency toward an influx of honey into them were artificially produced by the simultaneous reversion of the brood-combs at that period when they contained much honey in their upper portion, and when the queen is demanding that room for brooding purposes.

I give it as my opinion at this time, that a practical, off-hand arrangement for quickly and easily reversing both brood and surplus combs will prove another advanced step in our chosen science.

JAMES HEDDON.

Dowagiac, Mich., Aug. 12, 1884.

Thank you, friend H., for your valuable hints in this matter of reversible frames. I, too, like the idea of reversing, but we do not like the reversible frame we are using; in fact, I have never seen any thing yet that does suit me. A great number of devices have been sent in, but they are all too complicated, and too much machinery. A great many of them are the same thing over again; and a great many have taken the trouble to send us models of exactly what we have illustrated in GLEANINGS during the past year.

DO BEES EVER SWARM WITHOUT A QUEEN?

SOME PRETTY CONCLUSIVE EVIDENCE THAT THEY DO SOMETIMES.

YES. On page 517, Jas. Huffman decides that they do not, and his logic is equal to that of the judge in the case of the man who stole the sheep. He ruled that, as only one witness saw the prisoner take the sheep, and ten witnesses did not, therefore the prisoner should be discharged.

I have charge of a black apiary belonging to neighbor S., about forty rods distant from home. I am Italianizing them, and in June last I gave a queen-cell to a certain colony which I will call No. 1. Of course I had removed the queen; but the cell was torn down, and having no more ready, I gave a few eggs, from which they built two queen-cells. One of these was removed, leaving no possibility of raising more than one queen. This cell was expected to hatch on the 29th or 30th of June. On the first day of July, while I was absent from home, a small swarm issued, but returned in a few minutes, as might be expected. On July 4th they issued again, and again returned. On July 6th (Sunday), Mr. S. saw them issue again from the same hive, and hived them. I examined them the next day, found them to be queenless, and gave them a cell from which they raised a queen. In a short time the queen in No. 1 commenced laying. Now, it seems to me the above is sufficiently conclusive.

There is another interesting fact connected with the new swarm mentioned above: July 4th (Friday), during Mr. S.'s absence, I attempted to hive about half a bushel of stray bees which had clustered on a tree in his apiary. I hastily took a comb from a hive, and found it to contain only a few eggs. This was put with empty combs in an empty hive, and the bees shaken in, but I suppose they had their location selected, for they did not take time to investigate, but left in less than a minute. Being in a hurry I left the comb containing the eggs, in the hive; and when Mr. S. hived the swarm on Sunday he put them into that hive, and the next day they had queen-cells started on that comb.

I will add, that this season's work has completely disgusted me with black bees. "I'll none of them."

A USE FOR ANTS.

I have often read that ants take care of large herds of aphides; and some who write for the instruction of children assert that they keep them as cows, and *milk them*. For four or five summers I have noticed a steady stream of ants running up and down the trunks of pine-trees; and after noticing the article on "bug honey" from the pine, on page 521, I examined the trees and found large numbers of aphides inhabiting the twigs, and the ants appeared to be eating some substance from these twigs—no doubt the so-called "honey-dew," which causes so much trouble; for who wants it, either for human use or for wintering bees? Now, if the ants get this and prevent the bees from getting it, they do some good, don't they? I think I should prefer something that would destroy the aphides, though perhaps *they* are of some use. Can any of our entomologists give us any light on this point?

BURDETT HASSETT.

Howard Center, Ia., Aug. 9, 1884.

Thank you, friend H. Your evidence is pretty conclusive, that the bees swarmed out and clustered without a queen. We were well aware that they would do this, and hang for a short time; but the supposition has been, that, as soon as they discovered no queen was in the cluster, they would disband and go back to their old home; and in your case were they not hived before they had an opportunity to find they were queenless? The point would be, how long did they remain in the hive where Mr. S. put them, before you examined them and gave them a cell? Probably next day, as you state it, so they stayed at least over night without a queen, and, if I understand you, without brood. I think this is rather unusual. My experience has been, that, in hiving a colony without a queen of any kind, or brood, they will not stay over an hour.—Your plan of making ants useful, it seems to me, is a little bit questionable. If they destroyed the aphides, it might have a little more consistency. By the way, the aphides seem to be a pretty good thing around near Medina, for our queen-rearing apiaries; for just as nice queens are reared from aphis honey as any other. Should we, however, have a disaster in wintering, it might not turn out so well.

SOME SUGGESTIONS IN REGARD TO THE PREVENTION OF SWARMING.

ALSO SOMETHING ABOUT BEES THAT "DROP."

AFTER having experimented pretty thoroughly in trying to prevent swarming, I have come to the conclusion that the best plan is, try to prevent swarming only by giving the bees plenty of room, both over the cluster and at sides, and keeping the brood-combs empty with the extractor when they begin to crowd the queen; then if they are bound to swarm, let them have the satisfaction of swarming; but, instead of hiving them in an empty hive in the usual way, I hive them right back into the old hive, with every thing just as they left it, except that I first look the combs over carefully, and cut out all the queen-cells, being very careful to get them all. I also remove one or two frames of brood, and supply their place with empty combs. Thus you see we have them nearly as strong as they were before they swarmed; and as bees will always work with greater energy after they have swarmed in the natural way, we have a powerful colony which go right on at work in boxes.

I know friend Doolittle says, that bees swarm to get away from brood, and that he can not make them stay if hived with even one frame of brood; but my experience has been different. Beginning three years ago, first by giving them one frame of brood, then three or four, and finally hiving back into the old hive, as I have described above, out of 25 or 30 swarms managed in this way, but two have issued the second time. The first of these I found, on examination, queen-cells that I had overlooked. The second one swarmed while I was absent from home. A friend hived them back into the old hive, but did not cut out the queen-cells. The next day they swarmed again. I moved the hive to a new stand, cut out the queen-cells, hived them back, putting a nucleus in their place on the old stand. They filled one crate of 21 two-pound boxes before they swarmed. I removed these and put on two crates of two-pound boxes (42 boxes in all), and they are now working in nearly every box.

BEES THAT "DROP."

In Aug. GLEANINGS, page 524, friend Barber says that he wants a strain of bees that "drop." Our bees are working on buckwheat; and as they have an abudance of pasturage, and the weather is favorable, they are just "dropping" all the while, day after day. I never saw bees come in with such loads of honey; the ground in front of the strongest colonies will be covered with bees, "puffing awhile until they get breath enough to go in on foot."

O. G. RUSSELL.

Afton, N. Y., Aug. 18, 1884.

We have tried your plan a good many times, friend R., of returning a swarm to the hive they issued from, after having removed a part of the brood-combs; but we have not yet succeeded very well unless we at the same time gave the old hive a new location. —I am glad to hear that some of the friends have bees that "drop." We have had them do it recently when bringing in honey-dew, although they did not drop in such great numbers as they often do when bringing in basswood or clover honey.

VARIOUS MATTERS.

FRIEND DOOLITTLE THROWS LIGHT ON SOME OBSCURE POINTS.

I SEE by page 517 of GLEANINGS, that friend Root, at least, fails to comprehend the object I have in view in doubling up those weaker colonies about the middle of June, or as soon as I can get five frames full of brood in each hive. To make all plain, if possible, I will state that our main honey-harvest is from basswood, which commences to bloom from July 1st to 16th, according to the season, averaging about the 10th. Now, if I tried to build these five-frame colonies up to full stocks, and still work them for section honey, they would be sure to swarm about July 15th to 20th, just as the honey-season was at its best. This would spoil the whole thing, as a colony having the swarming fever will do little, if any thing, in the sections; and if I hive the new swarms I shall have no honey as a result. To avoid this I double two of these five-frame colonies, as I have told you, and by this means get one colony so strong that it will send out a rousing swarm about June 28th to July 1st, which swarm comes just in the right time, so that both the old and new colony will work with a will all through the honey-harvest, thereby giving me a large yield of honey. By adopting the plan I give, I have in the fall two good colonies for winter, from 100 to 150 lbs. of nice section honey, and a profit of from $3.00 to $5.00 from the nucleus I made at the time of doubling up, all of which I told you about. By letting the two weak colonies build up to full colonies, as friend Root thinks would be a better plan, I should simply have 4 colonies in the fall, with nothing to show for the season's labor, except the two increase. Does friend Root now understand, or is it still "a good deal mystified"?

SWARMS WITHOUT A QUEEN.

On page 517, Jas. Huffman seems to doubt that bees ever swarm without a queen, and the editor is "inclined to agree." I have often lost a queen out of a swarm of bees, and hived them the way Mr. H. speaks of; and had I never had any further experience in the matter, I might doubt, as he does, that a swarm ever issues without a queen of some kind in the hive at the time of issuing. But in 1876 I had colonies and nucleus swarm, when I positively knew they had no queen, for I had removed such queens from one to six days previous, and an examination showed no eggs in the hive, when the queen had been removed more than three days previous. However, such queenless colonies always sent out a swarm under certain conditions, which were always alike; namely, only when one or more swarms of bees were in the air, and said swarm or swarms circling close to the queenless colonies. The swarming mania ran so high that year, that there was scarcely a day for nearly a month but that there would be from two up to ten or more swarms in the air at a time every day. Since then I have had no excessive swarming, nor known a queenless colony to swarm.

BEES SUPERSEDING QUEENS.

Several years ago, two laying queens in a hive at the same time was considered quite a curiosity; but it soon became apparent that such a state of affairs often existed is cases of the superseding of an old queen. Now the question comes, "Are queens superseded only when they are failing?" (see page 518). Mr. Eastman gives some facts which bring to my mind a case quite similar to his, which goes to prove that the bees often supersede good prolific queens. In 1871 I purchased my first Italian queen. From her I reared a fine queen the same season; and just before swarming time the next year I found a dead young queen in front of the hive containing this Italian queen, less than a year old. Upon opening the hive I found this queen all right, busily engaged laying eggs, while on another comb I found a young queen roaming about as free as she would have done had her mother not been present. I left them thus, and in a week more both were depositing eggs side by side on the same comb. I now took the older queen (she having a wing clipped, so I knew her), together with a frame of hatching brood, and formed a nucleus where the queen laid all she had room for. In about a week a friend living a few miles distant came along, and wished to purchase this queen. After telling him all about her, a bargain was struck, and he took the queen home with him, introducing her into a full colony, where she did splendid work for two years, leading out a large swarm each year. The next spring she was lost in his trying to introduce her into another colony. I saw her three times in his yard, so I know it was the same queen. Again, in the fall of 1881 I found two laying queens in a hive, the old one being two years old, and having her wings clipped. I allowed the two queens to remain; and in the spring both queens were still alive, and doing duty as good queen-mothers should. This they continued to do till the last week in May, when the bees killed the young one; or she died, for I found her in front of the hive dead, and the old one still doing good work. She came out in June with a large swarm, and kept her colony prosperous till Sept., 1882, when she died, leaving no queen-cells in the hive at her death. Both of these facts seem to prove that the bees have no definite knowledge of the value of a queen, for they will go on keeping a useless queen year after year when she can not keep more than two or three frames filled with brood.

G. M. Doolittle.

Borodino, N. Y., Aug. 15, 1884.

In regard to uniting colonies just before the honey season, I think I see the point you make, friend D.; but I should not think one could depend on having it turn out year after year, as you put it. For instance, some seasons the colonies without being united might each one get to be very strong, and not swarm at all; again, they might increase so rapidly with a good queen that they would swarm, and both old stock and increase give a good yield of honey. I should think, also, that the doubled stock might swarm very soon after they were doubled, if they took such a notion. But I presume, of course, you expect to control this to a considerable extent. If the practice of uniting colonies just before the honey yield gives better results year after year, why, that is all that is wanted.—I have for some time been satisfied that bees often rear another queen, or many times replace one, when she is just in her prime; and, again, they put up with a very indifferent one, where replacing would be of great advantage to the colony.

FOUL BROOD.

SOMETHING RELATIVE TO LEGISLATION ON THE SUBJECT.

OWING to the prevalence of foul brood in some parts of our State, it would seem as if the time had come when bee-keepers should call for protection from our Legislature. To delay longer, simply means to let the malady become deeper rooted, apiculture to suffer more, to say nothing about the increased cost of stamping it out. The longer we delay, the greater will be the cost, and the more will our industry suffer. I deem it of the greatest importance that bee-keepers throughout the State should circulate petitions this fall, and forward the same to the General Assembly as soon as it convenes. Now, as you have a large interest in this direction, I would suggest that you strike off a suitable number of petitions to the Legislature, with blanks for names, and forward them to the Secretary of each bee-keepers' association in the State, with a request that they secure as good a representation as possible, and forward the same to its proper destination on time for the action of the Legislative body.

R. B. Robbins.

Bloomdale, O., Aug. 8, 1884.

PETITION.

To the Honorable Body, the Ohio State Legislature.

We the undersigned, bee-keepers of the State of Ohio, do hereby represent, that, owing to the prevalence of a disease known as foul brood among bees, which has gained a foothold in some parts of the State; and whereas, said disease is contagious, and threatens serious loss to the industry of apiculture within the State, we therefore pray that a warrant may duly issue in favor of suitable legislation to stamp out and prevent the spread of the above-named disease.

NAMES.	NAMES.

Friend R., the subject came up last winter at the convention in Columbus, and some measure was started toward securing legislation on the subject. Doubtless some of our readers who were present can tell us just where it stands. If the matter was dropped, it should be pushed along at once, and I will try to see that we have a suitable law, and then we shall all have to try to see it rigidly enforced. It is indeed a matter of the greatest consequence.

A PHENOMENON OF THE HONEY-DEW.

LIGHT SHOWERS AN AUXILIARY.

LAST Sunday, Aug. 17, just as we reached home after Sabbath-school, a light shower came up, just enough to wet the leaves of the trees so the rain would drip from them slightly. As we had had no rain for some time, this was just enough to moisten up the honey-dew that had for awhile dried down on the leaves. Scarcely had the rain ceased falling than my attention was called to a regular stampede of the bees from over 400 hives. Had each colony been suddenly taken with a mania for robbing some other colony, they could have hardly piled out at a more rapid rate. The air over our house, and at each side of it, was literally black with bees, and the roar sounded like a small tornado. In a little time a heavier roar set in, caused by heavily laden returning bees; and the way they "dropped" around the entrances showed conclusively that they were heavily laden. We watched with much interest to see how it would turn out, when another shower came up from the east, while the bees were going with a regular stampede westward after the honey-dew. The shower moved so slowly, and they were so busily employed on the foliage of the forest-trees, that they paid no attention to it. The result was, we had a pretty heavy rain at the apiary, while the inmates of this large number of hives were almost *en masse* a mile or more away from home. I told our people that there would be a "scene" pretty soon. Sure enough, we could see by the raindrops spattering in the dusty road about how fast the shower progressed; and when it reached the woods, the bees, as I expected, began to come tumbling home through the rain, pell-mell. I was surprised to see them hold out as well as they did. Occasionally some heavily laden bee, or perhaps a weak flyer, would be brought to the ground by the raindrops, but the most of them made their hives, and crawled in at the entrances, more like drowned rats than respectable honey-gatherers. I was wondering whether any of them would have the croup, or get a sore throat; but in half an hour more, after the rain had passed, they were out and at it again, almost as before; but I presume they felt a little disgusted when they arrived at the scene of their former hunting-ground of an hour or two before, to find that the heavier shower had not only moistened up the honey, but it had washed it clean off the leaves and soaked it into the ground. The honey they gather now from this aphis secretion is not very dark, nor very unpleasant to the taste, and we hope it is not going to be bad for wintering.

I confess that the above little incident was full of interest to me, inasmuch as it illustrated many points in the economy of the little workers. One thing brought out was, that a good healthy bee in the prime of life can fly a mile through a pretty heavy rainstorm, and be good for business again in an hour afterward. The weather was very warm, however—so warm that any bee beaten to the ground would recover and be ready to go home as soon as he dried off.

NOTES FROM A BRANCH OF THE "BANNER APIARY."

KEEPING BEES WITHOUT INVESTING ANY MONEY IN THEM.

PERHAPS you will remember that I was in Blasted Hopes last spring, with only one colony left out of six, which has died also, since then, of spring dwindling, and left me without a bee. I did not feel like buying more; and if I had it would have been a hard matter to find them to buy; for everybody in this locality lost all, or nearly all, of their bees last winter. I just took good care of my hives and empty combs, and waited for a good chance to get some more bees, which came sooner than I expected, for I now have 20 colonies under my care that belong to my brothers who live at Rogersville, Genesee Co., and this is how I came to get them:

There are but few if any autumn honey-bearing plants in their locality, and consequently their fall honey-harvest does not amount to much, while there are acres upon acres of boneset, goldenrod, and asters within bee-range of here, with but a few colonies to work on it. And I, thinking it was too bad to let so much honey go to waste with their bees lying idle, made arrangements with my brothers to bring some of their bees up here to keep during the honey-flow from buckwheat and autumn wild flowers. They furnished the bees, hives, and nearly all of the upper stories and empty combs. I went after them with the horses and wagon, and am to take care of them while they are here, and take them back when the honey-flow ceases, for half of the honey they gather.

MOVING BEES ON HAY.

My spring wagon is not large enough to hold 20 hives, so I took a lumber wagon with a hay-rack on and put on about one-fourth of a load of hay, and then set the bees on top of the load of hay, putting a rope clear around the outside of all of the hives, so that one could not slip off unless they all did. They rode home, a distance of 25 miles, over some pretty rough roads too, without breaking a comb or injuring them in any way, shape, or manner. I think they rode nicer and easier on the hay than they would on the hard board bottom of a wagon-box with springs under it.

WATER FOR BEES.

I notice that bees need water just as much as our domestic animals do. The next day after I got the bees home, just as soon as I let them out they began to search for water. They ran down the sides of the watering-trough to drink, in between the leaves of our cabbage plants, and everywhere where they could find water. Well, they bothered so much by being around the trough that I borrowed mother's washboard and a two-quart Mason fruit-can, and fixed them a place to drink, and they do not bother much now.

I have fastened some bright pictures near the entrance of every other hive to enable the bees to recognize their own hive quicker; and as I watch the heavy-laden bees tumble home, I think that bee-keeping is a good business when one does not have to invest any money in it.

HOWARD L. HUTCHINSON.

May, Mich., Aug. 18, 1884.

Friend H., your plan may do very well under the circumstances; but I think it will pay you better in the end to own the bees than to take them even that way. We shall be very glad indeed to hear the result of moving bees to catch the fall pasturage; and, by the way, have any of the friends tried moving to catch the basswood flow? If they have, we have not heard their report yet. It is a little singular, that all the bees died in your vicinity, when they wintered so well generally last winter. Did they die when properly put up in chaff hives?

BEE CULTURE IN CUBA.

FRIEND OSBURN TELLS US SOMETHING ABOUT IT.

FRIEND ROOT:—I have just returned from a trip to my old home in New York. After an absence of 17 years, it is hardly necessary to tell you that the scenes of my youth were greatly changed. But of this I will say no more, for 'tis hardly in place in a bee journal, but to tell you that *now* the active work of building up for the winter honey-flow is quite in order. A long time, you will say; but, to make haste slow is the ruling watchword to success in apiculture; take time by the forelock, and build the structure solid and firm.

We have now passed the *summer* of our discontent; the copious rains have brought a plenty of flowers, and the hum of millions of little wings testifies to the gladness that prevails, and takes possession of all animated life. Although we are in Cuba, the summer months are too hot and dry for honey to flow to any large extent, therefore our summers are to us what the winters are to the Northern bee-keepers, a season of anxious watching and anxiety; eternal vigilance must *never* loose her hold, or the devastation by robbing, and the despoiling teeth of the moth worm will wreak desolation in many a well-regulated household before you are aware of it. *Strange*, you will say, that robbing should take place, and that the moth should play havoc with a modern apiary of Italian bees. But, hold your judgment, Bro. Root; I trust you have never kept bees in Cuba, or in a climate where, with an apiary of many hundred colonies, when one or two colonies make up their minds to go on a pillaging expedition, hundreds of colonies join in the excitement, and, with the impetuosity and courage that the Cuban bee is so famous for, they are at such times not easy to manage. The tropical bee is as unlike those of the North, as a stream of molasses is as unlike a jet of water at the nozzle of a steam fire-engine. But the Cuban bee is as ambitious in gathering honey, when there is honey to gather, as they are determined to rob their neighbors, when said neighbors are in the least weak. Here in this hot climate the moth millers are very numerous, and are not at all wanting in courage to enter the hive and deposit eggs. No comb can be left here any length of time unprotected; for with no cool weather, day or night, to check the growth of the moth larvæ, but very few days are required to mature them ready for business.

Of the ultimate success of modern apiculture, I have no doubt; but let me say to one and all, that bee-keeping in Cuba is no boy's play. I have kept bees in many States of the Union, but never have I found a place where they required more watching and more attention than here. For about six months of the year (and that is in the winter), it is fun, fun alive, to handle bees in Cuba; then honey flows fast, no robbing, no moth, no swarming, no nothing to bother, but take the honey as fast as it comes, and this is the grandest thing about bee-keeping here, that, when the surplus season comes, it is at a time of the year when there is not the least danger of swarming. You can rush your bees up as strong as you like, and the colony will stay together and tend strictly to the business of gathering honey. This is a feature that should not be lost sight of. Nowhere that I know of can you control your bees so completley, during a honey-flow, as here. A. W. OSBURN.

San Miguel de Jaruco, Cuba, Aug. 13, 1884.

A ROUSING REPORT FROM FRIEND W. S. HART.

FROM 88 TO 117, AND 50 FORTY-GALLON BARRELS OF PALMETTO AND MANGROVE HONEY.

FOR the past season, my bees have been in the hands of Mr. H. W. Mitchell, who came to this State three years ago on account of lung troubles; and although very feeble he took hold with me to learn bee-keeping. One year ago, he having recovered his heath, and become expert at the business, I turned my apiary over to him to manage, and gave all my attention to my orange-groves. The result is, that we have not lost a colony from any cause during the year. We closed the season of 1883 with 88 colonies, and started this spring with the same number; have increased naturally to 117, and have taken between 51 and 52 forty-gallon barrels of extracted honey, 43 barrels of which is of the kind referred to by Rev. L. L. Langstroth, when he said to me last September at Toronto, "It can not be excelled."

I have not yet weighed it all, but know it will run considerably over 20,000 lbs. This report goes ahead of any thing that I have ever made for myself, and was made possible by an extra heavy flow from both the mangrove and cabbage palmetto. There was but a small early crop this year, and the saw-palmetto yielded scarcely any honey. The mangrove, however, as I have often said before, "never fails to give a paying crop," and "it will do to tie to."

New Smyrna, Fla., Aug. 15, 1884. W. S. HART.

Well done, friend H. Over 200 lbs. to the colony, from an apiary of 88, is certainly well done for any part of the world. The more credit is due you, too, because you secured this result without being personally at hand; that is, one who is able to manage an apiary, and make it pay by employing hired help, has accomplished more than one who has secured it by being personally on hand and into the work every day. One reason why I put emphasis on this is, that the man who could thus make one apiary pay could probably set somebody else at work on a second apiary, and so on with a third. Of course, much depends on the hand whom he succeeds in getting as manager. Please tell our friend Mr. Mitchell that we congratulate him, not only on having been restored to health, but on having made so good a result with so large an apiary, with so short an experience. Well done for Florida!

BEE BOTANY,

OR, HONEY-PLANTS TO BE NAMED.

GERMANDER.

FIND inclosed some seeds and flowers of the best honey-plant in this section. It is far ahead of horsemint. It is a winter plant. It began to bloom the 15th day of May, and is still blooming in some places yet, and the drought for the past 60 days has been a great backset to it. Its average height is about four feet when matured. I want to know of you the name of this plant, if you can give the correct one, and can it be improved by cultivation? If not, please let me hear from you. J. W. THOMAS.

Arlington, Texas, Aug. 2, 1884.

The above specimen is Germander, *Teucrium Canadense*, L. It is a plant growing 2 to 3 or 4 feet high; leaves whitish, pubescent, flower purplish. It is generally distributed throughout the United States in wild and waste places, generally on low and swampy ground. In the South it begins to bloom in May or June; further north, in July, and continues flowering throughout the summer. It is a pretty good honey-plant. W. S. DEVOL,

Columbus, O., Aug. 9, 1884. Botanist.

WATER HEMLOCK; IS IT POISONOUS TO THE BEES?

I sent to-day a specimen of a wild plant that grows here to some extent; and as I see the bees work on it some, I was told by a person here that it was poisonous to bees, and so I should like to have your opinion on it. A. J. HEIVLY.

Raymore, Mo., Aug. 16, 1884.

This plant is water hemlock, *Cicuta maculata*, L., a plant with a branching, dark purple or striped stem, growing 4 to 6 ft. high; leaves tri-ternately dissected, leaflets 2 or 3 inches long; flowers white, borne in spreading, compound umbels. Found on low or rather wet land. The fruit has a strong odor of anise. The root is very poisonous; it is sometimes mistaken for that of sweet cicily (*Osmorhiza congistylis*, D. C.), and children fatally poisoned by eating it. The leaves and fruit are also said to be poisonous to domestic animals, should they eat it. The honey is probably as good as from others of the parsley family, and I do not know of its having been found injurious to bees in any particular. W. S. DEVOL,

Columbus, O., Aug. 22, 1884. Botanist.

I should have little fear, friend H., of the honey being poisonous, either to the bees or human beings. The only poisonous honey we have reported is that from mountain laurel, described in the A B C book. However, it might be well to eat cautiously of it until you are sure no poisonous symptoms follow; and even if such should be the case, I think that, after being fully ripened in the hive, it will be found to be harmless.

SIDA STIPULATA.

The bees seem to like this plant very much; whether for honey or pollen I can not tell. It is known here as wild tea-plant, and some make tea of the leaves. T. G. ASHMEAD.

Jacksonville, Fla., Nov. 21, 1883.

This plant is *Sida stipulata*, Cav. (*S. hispida*, Ph.), belonging to the Mallow family, an order that produces an abundance of pollen, for which bees visit the various species, of which the hollyhock, low mallow, flower-of-an-hour, and cotton-plant are well-known representatives. This species from Florida is a branching plant growing a foot or so high, with yellow flowers about half an inch across, usually in clusters in the axils of the leaves, blooming in July and August. The whole plant is somewhat hispid-pubescent; the leaves vary from lanceolate on the older parts of the plant, to rhomboidal on the young stems. It probably yields little or no honey. W. S. DEVOL.

Columbus, O., Feb. 7, 1884.

TEXAS AND THE HORSEMINT HONEY.

We are having quite a flow of honey; but the great trouble is to get vessels that will hold it. I think your iron-jacket cans must be the thing, but fear the cost, and then the long time required to get any thing from up there. We have several barrels of the horsemint, like that sent you by Mrs. Goodrich, from our adjoining county of Hill, also a darker article made later, but very nice. Bees still at work.

BERMUDA GRASS, AGAIN.

The last issue of GLEANINGS came as usual, freighted with interesting matter. I was surprised to learn that the Bermuda grass flourished with you. I thought it too cold there; also to hear that bees worked on it anywhere in the United States, as it never produces seeds, and can afford but little for them. Prof. Devol is certainly mistaken as to its nativity, in evidence of which I take the following from *The Southern Cultivator*, Vol. XIV. (Apr., 1855), page 116, credited to "Affleck's Rural Almanac:"

> The grass known in Southern Mississippi under this name, *Bermuda grass*, is that known to botanists as *Cynodon Dactylon*, and is undoubtedly the *Duob* (or *Doob*) grass of the Hindoos — their sacred grass, and is a native of the valley of the Ganges. How it acquired its present local name is not known, unless from having been introduced to South Carolina from Bermuda at an early day, or supposed to have been derived from thence."

No man in his day knew better what to say on such a subject, or when to say it, than Thomas Affleck.

What is the evidence in support of Prof. Cook's view, that the genus *Apis* did not exist on the American continent until the advent of the Caucasian race? The historian of De Soto's expedition records the finding of pots of honey in possession of the Indians of Western Georgia in 1541. Where did it come from? Tell me some time where the subject is discussed. W. T. COX, M. D.

Groesbeck, Tex., Aug. 10, 1884.

I can not tell where the subject of the introduction of honey-bees is discussed, friend C. Perhaps Prof. Cook can enlighten us.

THE BEE DISEASE WITHOUT A NAME.

WHO WILL TELL US WHAT IT IS, HOW IT COMES, AND HOW TO TREAT IT?

I SENT you a few of my bees, which appear to be diseased. You will observe that they are Italians; they are from the queen last sent me by you, and consequently comparatively young bees. The stock was prepared for the queen by taking five frames containing honey and brood from a stock of my black bees, together with a good supply of bees. Owing to the loss of the first queen, they were a few days without any queen. I successfully introduced the one sent, and she has proved a prolific layer. The hive soon became populous; but I soon observed that, instead of working as my others did, they clustered in large numbers outside the entrance, and seemed to be uneasy. I looked more closely, and found that there were a good many bees that were small, slender, black, naked, and shiny, and that the others were constantly seizing them, and appeared to be endeavoring to sting them. Two or three would be after one of these black fellows, but I have never yet seen them actually sting one of them to death. These black bees appear to grow weaker and weaker, and at last die of general debility. I can assign no reason for the trouble. Four other stocks standing near these are at work lively, and appear to be doing well. I took them all down yesterday, and examined every frame. I found very little honey stored during the past three or four weeks, very little unsealed brood, and a general appearance of demoralization. The queen appears to be all right, and a few freshly laid eggs were in one frame. The bottom of the hive was covered with dead bees, at least half a pint. I also found in one or two of the brood-combs, larvæ of the bee moth. I put the frames on a new bottom-board, cleaned up the combs, and put them all back. The bees appear to be dispirited and listless. To-day I find them outside in considerable numbers, working away at the black fellows, apparently endeavoring to drive them away. In my other stocks none are outside, and they are working well.

I have written you thus at length that you may understand the case fully, and, if possible, suggest a remedy. This was the best of those that I put Italian queens into, and I hate to lose it.

S. C. OLMSTEAD.

Clifton Springs, N. Y., Aug. 23, 1884.

Several of our readers will recognize by the above description the disease which has been described for several years in the A B C book. It seems to start up here and there, and sometimes results in the loss of a colony or two, but I have seldom heard of more than that. One or two have suggested that replacing the queen would prove a remedy, but this would likely be a remedy for any diseased colony, unless the disease were contagious, like foul brood. A good many times a colony recovers of itself. May be a new hive and a new location might make a change. Some years ago we feared it might prove disastrous; but of late we have seen nothing of it, unless it were occasional indications in the shape of emaciated and shiny bees around the entrance. These the bees almost always seem bent on driving off or driving away, as friend O. describes it.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

MANNA GRASS, ONCE MORE.

FIND inclosed a sample of manna grass, sent you by F. D. Culver, of Quincy, and described in GLEANINGS of August 1, in its different stages. Our bees are still working on the greenest of it, but the most of it is dried up. You will examine it at your leisure; it is the same wherever found, every head secreting honey in abundance.

WATER LIME TO KEEP AWAY ANTS.

In regard to ants, ours will not wade through water-lime; we have a sugar-barrel kept from them by putting lime around the bottom of the barrel. A table with the legs standing in the same, I think, would protect honey.

ANOTHER TRAP TO CATCH DRONES.

A good drone-trap is a tin box with a cover, and places cut in the bottom in such a manner that it will stand on its back, with cover lying on the alighting-board, and openings of proper size to allow workers, but not drones, to pass through immediately in front of the entrance, when the drones are out flying, and they will cluster in the box, when you can shut the box and destroy them. I caught 130 at one haul with such a trap.

Quincy, Mich., Aug. 11, 1884. M. J. RAWSON.

I will explain to our readers, that the drone-trap mentioned above is probably a square or oblong tin box. The lid is hinged, and the bottom punched full of holes, made with a punch of the proper size to allow the workers but not drones to go through. Now place the bottom against the entrance of the hive, and the cover, when open, will form an alighting-board. It is put on after the drones are all outside of the hives, or the frames may be taken out and the bees shaken outside. The workers go in through the box, while the drones are left inside of the box; and when the lid is closed they are all boxed up, ready to be destroyed. Thanks, friend R., for the idea, as well as for the additional information about the manna grass.

WHITE OR RED CLOVER—WHICH GIVES THE MORE HONEY?

Bees have done well here where they have been managed on the modern plan. A great many are yet kept on the old log-gum or box-hive plan. Such have increased well in numbers, but not so well in honey. White clover and red were both abundant here. In the early part of the season, bees worked more on red clover than white; but before the season closed they neglected the red for the white.

MOTHS.

I am young in the bee business, but have always heard those who were more experienced than myself, say that moths were a great enemy to bees, and consequently I was much surprised when I read the following in the *Farming World:*

> Well, but what about the moth? Never mind the moth; but, keep your colonies strong enough to gather plenty of honey, and they will attend to the moth. The moth never destroyed a colony of bees yet, and it never will. There must be something else wrong before the moth goes in to eat the empty comb. The moth is a blessing, not a pest; and it is only your ignorance that makes it a bugbear.
>
> Murryville, Ill. WM. CAMM.

As I suppose you are well posted on the subject, I should be glad to hear what you have to say about it. I. S. HUNTER.

Todd's Point, Ky., July 28, 1884.

It seems from the above, friend H., that while bees may prefer red clover during one part of the season, they may turn over to the white at another part.—I think your quotation is about correct. The moth is only an imaginary foe to bee culture. I do not know that I should call the moth a blessing, however; still, I have sometimes said I would not pay 25 cents a year to have every moth banished from all our apiaries.

INEXPERIENCED, BUT THIRSTING FOR KNOWLEDGE.

I had six stands of bees in box hives this spring; have had three swarms so far, and hived them myself for the first time. I tried all the spring to sell them, but failed to sell one. I know nothing about keeping bees—couldn't tell a queen from a bumblebee, nor a drone from a hornet; but after reading the copy of GLEANINGS you sent me, I should *like* to know something about them. I have to depend on day's work for a living, and have considerable spare time; and if I can devote that to the bees, so as to make it pay, I should be glad to know how.

I will quit using using tobacco, or pay for the smoker, if you will send me one. GEO. BILLINGS.

Alcona, Liv. Co., Ill., June 30, 1884.

A STUBBORN SWARM OF BEES.

I would ask you whether you have ever heard of a case where a swarm of bees will leave a hive with queen and all, and hang themselves on a limb after first giving them a frame of brood and sealed honey. They uncapped the honey and took it all out, and hung on a limb. I took the queen away and gave them another laying queen with wing clipped, and the next day they swarmed again. I found the queen on the ground, put her back in the hive, and hived the bees; next I killed all the drones, and then I went and bought 10 lbs. of granulated sugar, and commenced feeding, and to-day I can't find a bit of honey in one cell. I can find a few eggs. I fed the sugar in less than a week. I never saw bees act as they do. They are black and Italian bees, with Italian queen. I can't find any way yet for putting them to work. Their hive is new and clean, with good combs, not in the least moldy. I have made up my mind to cage the queen and a few bees, and give them honey, and make the bees work or die. What is your plan, Mr. Root? It is no new swarm that is contrary, but an old one. Last spring some of my Italian bees swarmed out and went into this swarm of black bees; that is the reason for my saying black and Italian. They then killed the Italian queen, and some time later they killed their own. They worked well on apple-blossoms, and got quite a lot of honey; but to-day they are idle, and won't work, and I can't make them, with feed in their mouths. JEROME HORN.

Flicksville, Pa., July 5, 1884.

We once in a while have a swarm, friend H., that will persist in swarming out, leaving brood, and performing just such antics as you mention. I have had a few such, and my remedy would be to break them up into small nuclei after they get steadily at work and raising brood. They might then be united if you wish. I do not know what they did with ten pounds of sugar in less than a week, unless they allowed robber-bees to come in and carry it away. If they get out of stores they will be pretty apt to swarm out. Perhaps heavy feeding will eventually fetch them straight. Bees seldom kill their own queen unless they are demoralized by starvation. At such a time, giving them a little honey, or only so much as they can load up and carry off, does not help the matter. Make them store it in their combs.

STOPPING BLOOD; A HINT TO THOSE USING BUZZ-SAWS, AND OTHERS.

GLEANINGS is at hand this morning; and as I am sending to you for a queen, I may as well say to A. B. Osbun, page 552, that when a person is bleeding from a wound in a limb, a loose bandage (such as a handkerchief) should be tied *above* the wound. A piece of stick being then introduced under the bandage, it should be twisted sufficiently tight to control the flow of blood. The veins will soon become occluded, or stopped up, by a plug of coagulated blood; but if any of the larger arteries are severed, the ends have to be picked up by forceps, and tied with silk, etc., which could hardly be done by an amateur; and if the blood-vessels severed were large, a medical man only could deal with them properly. But the prompt application of such a bandage as I have mentioned can be done by almost any one, and has saved many a life.

HENRY H. REEVE, M. D.

Churchill Ont., Can., Aug. 19, 1884.

A STRAIN OF FIGHTING BEES WANTED.

I commenced the season with 25 Italian and hybrid colonies in cottage hives, and transferred them to L. frames, and increased to 50, and have taken 1500 lbs. extracted honey, without the use of any comb foundation. After the bees were transferred they averaged 5⅓ combs to the hive. Is there any way to make bees fight? My bees are the worst thieves I ever saw, and none of them will fight. I have tried every thing I can hear of or find out from any of the bee-books. This is my sixth year with bees, but I have had more trouble last week than I ever had all together before.

Marion, Ind. B. T. BALDWIN.

Friend B., the best way to make bees fight that I know of is to get a little Italian blood infused into them. You need not have to wait very long if the case is urgent, for a few young Italians shaken into the hive at nightfall will act as sentinels, and protect effectually any hive that bothers in the way you mention. The Syrians and Cyprians are even more vehement, if any thing, than Italians; but there is not much chance for a robber with any of these three races of bees. Even a slight mixture seems to answer the purpose. I notice you mention having Italians and hybrids. Now, if there is unsealed brood in the hive, it seems to me they must protect their stores unless they have got into a worse state than any I ever saw. A colony without queen or brood will very often pay but little attention to robbers.

REPORT FROM WEST VIRGINIA.

We have a poor honey season here now. We had a large apple-bloom last spring, but the weather was cool and rainy. The bees could not be out, so they did not get very much honey to start brood-rearing as early as they should have done. Bees starved here in May. We had a good poplar-bloom. The bees did well while it lasted. White clover did not last long; the dry weather set in, and dried it up. We have had a long drought here. Bees are gathering no honey, only a little pollen. Some people say their bees are eating up what honey they have. They will have to feed this fall. We had much of honey-dew here, but I never saw a bee on it all summer. Perhaps they worked on it somewhere else. The bees did not swarm much; and what did swarm, some of them took the "skedadels" and went to the woods, or somewhere else. There have been several bee-trees found here in the woods, some of them pretty rich in honey.

I started last fall with 19 stands; wintered 18; divided 8 stands this summer; one natural swarm. Took out 438 lbs. of honey; sold for 18 to 20 cts. per lb. I think they all have plenty to winter on, except four stands; I may have to feed some. I have sold $137 worth of bees, honey, and gums, this summer, out of my apiary. I have my bees in chaff hives. W. B. ZINN.

Holbrook, W. Va., July 28, 1884.

A YOUNG DRONE-LAYING QUEEN AFTERWARD TURNING OUT ALL RIGHT.

Inclosed find $1.00 to pay for a queen sent to replace a drone-layer. Instead of pinching the drone-layer's head I kept her, and she turned out all right after laying drone-eggs for two or three weeks.

A. W. SMITH.

Shelton, Buffalo Co., Neb., Aug. 5, 1884.

Many thanks to you, friend S., not only for remembering us, but also for the very valuable fact you furnish. I was aware that young queens sometimes lay a few drone-eggs to start with, but I do not remember before that one that has laid drone-eggs after she had been shipped, turned about and finally laid worker-eggs. Now, in view of the above, friends, let us not be too hasty in killing a queen, even if her first eggs do produce drones; and especially would I be careful if the eggs were laid regularly. A drone-laying queen seldom lays her eggs with the regularity that a fertile queen does.

QUEENS THAT WON'T LAY WHEN FIRST INTRODUCED, AND HOW TO MAKE THEM LAY.

Your postal is at hand, offering to replace queen, if not laying. I was not aware that you would replace a "dollar" queen for any reason, except death on the road, and was therefore as much pleased as surprised by your generous offer. However, I am glad to be able to say that feeding had the desired effect, and that both queens are now laying satisfactorily. H. H. REEVE, M. D.

Churchill, Ont., Can., Aug. 14, 1884.

Friend R., I never feel right to take money for any thing when the article never does the purchaser any good, and through no fault in any way of his own; therefore it has been our custom to replace queens, no matter what the price, that do not lay when properly introduced. In the fall of the year, I am well aware, many queens will not lay unless the honey is coming briskly. At such times a little feed every evening will start them, as transpired in the above case. When this does not have the desired effect, sometimes they will commence laying by simply giving the colony a frame containing some eggs, and a little unsealed brood. As it is a pretty hard matter to furnish two untested queens at the price of one, we hope our friends will take all due measures to get their queens to laying, before asking us to send another.

GETTING HONEY AND NOT INCREASE.

Prof. Cook gives a plan in the June No. of GLEANINGS, p. 376, to get honey when no increase is wanted. He says, "When our first colony swarms, put it in a new hive; when No. 2 swarms, hive it in No. 1, after cutting out all the queen-cells, and No. 3 is hived in No. 2, and so on."

Now, as I want both honey and increase, how will it work to follow Prof. Cook's plan, with this difference: When No. 1 swarms, give it a new hive; when No. 2 swarms, put it in No. 1, after removing three frames of brood and the adhering bees, cutting out all queen-cells, giving them a new queen, with frames of foundation; when No. 3 swarms, give them to No. 2 after No. 2 has had queen-cells cut out, and three frames of brood and bees removed, and so on with each swarm that comes out? Will this plan work? or what are your objections to it? I would have given it a trial this summer; but out of 25 colonies I had only one swarm, and so far I have taken only 400 lbs. of comb honey, the greater part of it from locust-bloom. Basswood was a failure. I should have done very well this year, if all my colonies had been strong, and in condition to gather the locust honey; but as it was, half of them did not give me an ounce of surplus, while my three strongest gave each 75 lbs. JOHN MAJOR.

Cokeville, Pa., Aug. 16, 1884.

Your plan will work, friend M., I think, without any trouble, but I should prefer hiving your new swarm on the frames of brood you speak of, taking out the entire colony. It seems to me that this would be less complicated, and there would be no danger of quarreling among the bees.

THE BEES THAT WERE DISSATISFIED

I have a hive of bees which showed signs of swarming the 18th, when I threw water among them, and also yesterday. Bees would go in with pollen and come out without unloading. Yesterday I opened the hive to cut out the queen-cells, and, what was my astonishment when I found none; but I found the comb in one of the outside frames had broken loose, and fallen down. Do you think the bees wanted to forsake their hive? There were eggs and sealed brood in the hive. This comb that broke loose was built between two others, in the summer of 1882; but as to its coming to the bottom of the frame, I am not positive. Combs so built could be filled out at the bottom, with pieces of old comb. Friend Doolittle, in Aug. 1 GLEANINGS, page 516, tells us about the building of comb without fdn. between two other frames, but does not say whether the frames are built full. Will he please enlighten us? W. W. STANTON.

Perth, N. Y., Aug. 22, 1884.

Bees do sometimes desert a hive because the comb has fallen down. They seem to look at the matter with a sort of dismay and indecision; and even if they do sometimes decide foolishly, do not even human beings sometimes do as badly? As a general thing, I believe they go to work and take all the honey out of the broken comb, and then fasten it up the best they can, refilling it with honey. But where there are several combs down, and honey coming, they often seem to prefer to hunt a new home, and commence it all over again. Our remedy for such mishaps is wired combs. I believe friend Doolittle gets his combs built full, clear to the bottom-bar, although I should think he would need some device for reversing the frames in order to get them full and solid.

PYRETHRUM A SUCCESS IN KEEPING ANTS AWAY.

There is no trouble in keeping ants from honey or any thing else, if you use pyrethrum powder, and most economically by the use of a powder-blower. Ants would destroy my bees but for it; but with it I defy them. The honey season is nearly over; quality of honey excellent; and where the bees were in good condition, early returns favorable.

THE FLOODS IN CALIFORNIA.

We had 87½ inches of rain on our place, and water ran in streams all over the land, killing many of our fruit-trees, drowning out some of our lucerne, and, worst of all, keeping the weather so cold that there were no flowers. The streams rose to such a height that we were shut out from communication with the outside world. You remember we live in a cañon, shut in by high mountains. Then we discovered that the inclement weather caused the bees to consume more honey than ever before, and they were starving. At the peril of life we succeeded in getting to town, and procured sugar, and saved just one-half of our swarms. Then as soon as a road could be made passable, we took them six miles to mouth of the cañon, where they found plenty of honey May 5th. We kept two swarms at home, and had to feed until June 15th. Honey extracted since will average 50 lbs. to each hive moved, and we have doubled our swarms by dividing.

W. W. WILSON.

San Bernardino, Cal., Aug. 6, 1884.

HONEY FROM RED CLOVER.

I have kept bees, with the exception of a year or two, ever since 1854 (the black bees); in all that time I have never noticed them gathering honey from red clover. This season my Italians and hybrids are filling sections nicely from it. I have wintered them all that time on their summer stands in a hive made of inch boards, with no other protection; generally the hive was set down close on the bottom, with an entrance of about 2 inches by ⅜ in. In summer they are raised on blocks at each corner. I never lost a colony that had sufficient stores to winter, neither have I lost any from dysentery. They never had any upward ventilation.

Mickleton, N. J., Aug. 18, 1884. J. C. HAINES.

HONEY FROM COTTON.—A SMALL SWARM OF BEES.

This has been a very poor honey season here, but we are now having a fair flow of honey from cotton and sunflower. Wild sunflowers grow so thick a horse can hardly get through them. I see the bees on them. I suppose they get honey from them. I had a swarm come off last Thursday—not more than a teacupful of bees; they clustered, but I did not care to bother with them; they hung till Saturday night; hived them; they now have a piece of comb 2 by 3 inches, and the queen is laying two eggs to the cell. Got any smaller swarms than that?

M. A. LUCKEY, 15—18.

Aberfoyle, Tex., Aug. 13, 1884.

SOME QUESTIONS IN REGARD TO HOUSE-APIARIES.

You speak of a cellar under your house-apiary. What is its use? Is it not too small to be of value, and also makes a floor necessary? And is not an earth or cement floor on the ground preferable? for would not a wooden floor disturb and annoy the bees by jarring with every footstep within? (see Root's *Quinby*, p. 78, last edition).

If I understand you on p. 17, A B C, you extract from lower story only; in fact, there is but one story. Am I right? Is not the second story impracticable in a house-apiary, and is not this a disadvantage? What is the smallest practicable distance between top of lower row of hives and bottom of next upper tier?

Would not a short low wide window, with revolving screen over each hive, be a good thing to clear the house of flying bees when the hives are opened?

How high from the ground can you have the highest tier of entrances, without seriously lessening the amount of honey stored, and how high can you place queen-rearing entrances without serious injury?
H. P. COVE.

West Granville, Wash. Co., N. Y., Aug. 25, 1884.

I presume a house-apiary with a cement floor on the ground would answer every purpose. One reason for advising a cellar was, that it can be used for storing extracted honey, and the honey easily be allowed to run through the floor into a large storage-can set underneath. We have not found that the jarring by walking on the floor disturbed the bees to amount to any thing. In extracting in the house-apiary, we intended to put in enough combs horizontally to take all the honey stored, so another story would not be necessary. We did, however, use two stories in the house-apiary, but it was a little more trouble than where they were worked in a single story. The upper and lower hives may be just as close together as the operator can have it, and get room to work the lower ones. In ours, we had the first tier of hives on the floor; the next one raised about three feet; that is, they sat on a shelf three feet high. You can go as high up from the ground as you choose; in fact, we have had large yields of honey stored in the upper story of the house-apiary. We have also had queens reared in hives in the second story, without trouble. If there are only three entrances on one side of a building, as described in the A B C book, the bees will make fewer mistakes than where hives are arranged as they usually are out of doors. Now, I am sorry to add, friend C., that, notwithstanding all the above objections are easily met, house-apiaries are mostly discarded. and stand empty. We have not had any bees in ours for two or three years, and I believe that is the case with most house-apiaries throughout the land. The reason is, probably, no one wants to work with bees in a building in hot weather; and in cold weather, bees do not need working with. J. H. Nellis, of Canajoharie, N. Y., used a revolving window over each hive, but I think that he, too, has discarded his house-apiary.

WINTERING BEES UNDER A HAYSTACK.

I dug a hole three feet deep, and as big as needed, and set 2x4 pieces over it, nailed together like rafters, and stuck a stack of hay over it, and after it was settled took a hay-knife and cut a doorway in, put a foot of hay in the bottom, and set my bees on it, put up some loose boards for a door, and some hay against them. The hay above and beneath takes all the moisture, leaving it free from frost. At any time you can look at them, and, if needed, set them out for a flight. I always put my bees in the end of a stack that I want to feed last in the spring, so I am out no hay. We stack all our hay outdoors here.

SWARMS WITH VIRGIN QUEENS.

If bees swarm out with a queen when she takes her wedding-flight, what will they do if you hive them? I had a swarm go out with a queen but three days old; they clustered, and I carried them back, and put them in the hive they came from.
RILEY N. LEACH.

Humphrey, Neb., Aug., 1884.

Your haystack wintering cellar, friend L., is quite ingenious, and it seems to me it should answer a very good purpose. The ventilation is all that could be desired, if I am correct. There is one trouble, however. Many of our most successful men who winter in cellars prefer to have the cellar underneath the cooking-stove. This gives a temperature considerably higher than if there were no stove; and by means of a pipe attached to the stovepipe, the air may be changed often. I suppose, of course, you would not recommend the plan you give, unless you tried it and found it to answer well.—A swarm in the condition you mention would be simply like any other after-swarm. After-swarms almost always contain virgin queens. Sometimes they go out to get fertilized the same day the swarm is hived, and I believe the bees usually adhere to their home after they have been hived in a new place. I should, however, prefer to give them a comb of unsealed brood, to make sure they did not desert when the queen was out on her wedding-trip.

FROM 4 TO 40 IN A SINGLE SEASON.

When I first started I bought 4 colonies in the spring, which increased to 40. During the winter I lost 4 colonies, which left me 36 for another start. I had some honey the first year, but not very much the second year. My 36 colonies increased to 125, and I took off 3000 lbs., nearly, of very nice honey. I do not extract. At the present time I have 120 colonies, having also sold about 17; so far this season I have taken off about 1200 lbs. comb honey in sections and frames. I find sale at 20 cts. per lb. for honey in sections; frame honey, 15 cts.

Query.—Do bees make comb from honey? Do they carry the honey on their legs as they do pollen?
W. R. PINKERTON.

Berdan, Ill., Aug. 11, 1884.

Friend P., it seems to me that you report the above enormous increase pretty coolly. If you have not made any mistake in figuring, it is something rather unusual.—Bees do make comb from honey, but they do not carry honey on their legs. All these questions are fully discussed in the A B C book.

I have extracted, up to this date, 6000 lbs. of nice honey, and will have as much more by the first of July.
ANTHONY OPP.

Helena, Ark., June 11, 1884.

STRAMONIUM AS A HONEY-PLANT.

There is a lot of Jamestown weed, or stramonium, growing here, and the bees are working on it all the time. If you pull out one of the blossoms, and suck on it, you can get quite a drop of sweet; but if you take too much it will make you feel sick. Do you think it is good for the bees? M. BRYANT.

Holton, Kan., Aug. 2, 1884.

We have had several reports in regard to this, and we had some seed sown in our flower-garden, which is now up nicely, and the plants are about three inches high. If honey enough can be sucked from the flower to make one sick, it certainly has the merit of furnishing it in a quantity larger than any thing I remember to have seen reported so far.

WORKER-BEES FROM WHAT IS APPARENTLY DRONE-BROOD.

There is a queen in my apiary that does not belong to me. That queen is two years old in August. She came out with a swarm the first day of July. In four or five days I looked them over. Near the queen-cells I found a frame of all drone-brood capped over. I went to uncap them, and found that they contained all workers. I showed them to three or four different men, to convince them of the fact. She can be found on Section 12, in the township of Woodland, Barry Co., Mich.

MICHAEL SWEITZER.

Friend S., I have known worker-bees hatched from drone-comb many times, but I have never seen worker-bees hatched from cells that were capped over so as to resemble drone-cells. The case you mention is, in that respect, a novelty.

LOOK OUT FOR OVERFLOWS.

I have one queenless colony that I just got this morning. I lost 52 colonies in June. They were swept away by the flood. We had not one left to start with—all Italians. The stream got too high to save them in the night. It rose too fast to do any thing with them. I will try to start again.

GEO. W. TAYLOR.

Lewistown, Md., July 30, 1884.

Friend T., there is a moral to your sad story, and it is this: Locate your apiary on ground so high that it will be quite improbable if not impossible that the ground should overflow. We have some low ground on our place that is better land than our upland, but I have been deterred many times from putting crops on it, from the liability to overflow, and I certainly should not want to risk bees there. We are very sorry for your bad luck.

THIEVES IN THE APIARY.

The honey-flow was cut short by drought; no basswood honey to speak of, and now bees are scarcely making a living. I am almost ready for Blasted Hopes; at least I am in trouble. Some thieves entered my apiary and killed one of my best colonies, cut out and threw brood and honey around the hives, which has started my bees to robbing. We are having a good rain now, which may start flowers, and give them something else to do.

Ashley, O., July 28, 1884. ELIAS COLE.

Friend C., I am sorry to hear such a report. Years ago we used to have bee-hives robbed in our vicinity, but of late it seems a thing of the past. Now, one who would commit such a piece of folly as this must be ignorant as well as bad, for who would destroy choice queens and bees, worth ten times the small amount of honey they get, if they were really aware of the damage they were doing? I am afraid your neighborhood needs educating, and perhaps still more, Christianizing. Is it not so, brethren? Where the spirit of Christ prevails, and where a majority of the people attend church regularly, surely such disgraceful acts can not be common. I suppose it is hardly possible that the person who did it will see these pages, and yet I wish I might call his attention to the fact that it is a disgrace to the whole neighborhood.

COMMON GARDEN SAGE AS A HONEY-PLANT.

I want to know if garden sage produces good honey, and if it is a profitable crop to raise. I have a small patch, about 3 rods square now, but not enough to test its honey-producing qualities; and if you can put me on the way how to cultivate, cure, and prepare it for market, I shall feel much obliged. I am aware this is not strictly in your line of business, yet I believe the information sought would be of much value to many bee-keepers as well as myself. JOSEPH MASON.

Wallace, Ill., Aug. 15, 1884.

Friend M., we have had several communications in our old volumes in regard to sage as a honey-plant, and doubtless some of our gardeners who have grown sage for market can give you the desired information.

WATER FOR BEES, AND WATER FOR PEOPLE.

Have you or any of the A B C class had any experience with strong mineral water, for watering bees? If so, does it produce any bad effect, or is it as good as any? The strongest minerals of the water I have are sulphur and iron, with several other minerals. The bees drink it, but they do not like it.

Milano, Tex., Aug. 3, 1884. G. W. BEARD.

Friend B., I do not think it would make much if any difference what the water was, providing it did not disagree with the bees. If they like rain water better than the spring and well water, I should by all means endeavor to furnish it to them. Within the past few weeks I have demonstrated pretty conclusively by careful experiment, that soft water, from a nice cistern, the water being caught on a slate roof, is much better for myself than the hard water we get from our wells here in the clay soil of Medina County. I believe physicians usually tell us that hard water is not objectionable; and although I have used it for years, I am satisfied that it was doing *me* harm. Now, if you give the bees pure soft water, you certainly can not have any thing much better, unless they are sick, and need medicine; but even if they were, I should prefer the soft water, I believe. I know many people think they experience great relief in visiting mineral springs; but my impression is, it is the change of scene, and outdoor air, more than the water they drink. I should have pure soft water for myself and bees too, if I were you, and I would not mind much, either, what it costs to get it, within the bounds of reason.

CAUTION IN INTRODUCING QUEENS.

The select queen is all right. Her young came out to-day to play; they look very fine. The dollar queen is lost. I got the old queen I took out of the hive, and she got away from me, and I suppose she was lost. I put in the dollar queen, which I should not, until I was sure she was lost, and in three days I looked into the hive again, and found the old queen there, and the dollar queen gone.

To be sure, friend K., you should have examined her hive as soon as the old queen got away from you, for they will almost invariably go straight back, even though a year or two may have elapsed since they were outside of the hive on their wedding-trip.

MEETING BETWEEN THE DRONE AND QUEEN: ANOTHER WITNESS OF THE OPERATION.

I am now 63 years old and have kept bees almost all my life, and my father did before me. I never saw a drone meet a queen, except once, and that was on a board before a hive that I was trying to get a swarm in. There were three queens with this swarm; the drones were very thick all around the hive, and I could see the queens running in every direction, and drones running all over the hive. One drone came to one of the queens, and clinched as if they tried to sting each other, and soon the drone fell back, and the queen was dragging the drone on the board, and soon they parted, and the drone was dead, and the queen went into the hive, and the swarm went with her.

Many thanks for the interesting fact you give us on the above subject. So it seems that queens are sometimes fertilized on the alighting-board or near the entrance. In some of our back volumes something similar has been mentioned, proving that a queen with crippled wings *may* be fertilized in front of the hive, where drones are plentiful.

SOMETHING ABOUT OUR OLD FRIEND MR. QUINBY.

Those bees came from a queen that I had of Quinby. I had some very nice queens of him when he was living. He was a very fine man, and could always be depended on. I saw him in his last sickness, and he talked about bees almost all the time I was there. My bees are almost all hybrids.

G. D. KENTNER.

Turin, Lewis Co., N. Y., Aug. 11, 1884.

HOW OLD DO QUEENS USUALLY BECOME?

How many years will queen-bees be of good service? and when they begin to fail, how are we to know it, so we can replace them with fresh eggs, queen-cells, or young queens?

I inclose an order for a lot of smokers. I notice one important feature in using them is, to empty all the ashes and unburnt material out before refilling. This prevents ashes being thrown in the honey, and the fire that is emptied out, when replaced, starts it going again.

Another invention of mine, although Huber, whose book I have not read, may have practiced it, is, when hiving a swarm of bees, to put in and space all the frames, then use the top-box as a funnel to shake the swarm in. After they are driven down it can be taken off again.

T. B. CLARK.

Farmington, Utah, Aug. 13, 1884.

Friend C., you will find this question pretty fully discussed in the A B C book. A good many queens live to be two years old, and occasionally one three, while perhaps half of them die when a year old or a little more, and a good many at from 6 months to a year. After having noticed the matter pretty closely, I can not see that it makes very much difference how they are raised, in regard to their longevity, whether under the influence of natural swarming or otherwise. It is an easy matter to tell when a queen should be replaced. Just look through the hive, and see how much brood she has—that is, when honey and pollen are coming briskly. If her colony is small, when she has had a fair chance, you had better replace her, no matter what her age is; or whenever you find any queen with less brood than she ought to have, all the circumstances being favorable, better let a good one take her place.—Your idea in regard to shaking all the ashes out of the smoker is a pretty good one, although by shaking the dead embers thoroughly, and then puffing briskly on the smoker, you can generally get out most of the ashes without throwing out the contents.—Setting an upper story temporarily on the hive when you want to shake a swarm on top of the frames is a common way of doing, I believe.

TWO QUEENS IN A HIVE, AND BOTH GOOD ONES.

Last February I was looking over a hive of Italians with Mr. J. M. Kellough here, and each of us found a queen, both laying in the same hive, and undoubtedly had wintered together. They had so unusual a quantity of brood, we made two colonies of it. One of them cast the first swarm, and both made the most powerful colonies early. One was lost—went off with swarm; the other was superseded. I have some of the daughters, big, fat, and yellow, like the twin mothers.

RUBBER MATCH-BOX GUN.

I don't think Mr. Root ever found out the amusement there is in his hard-rubber match-boxes for children, or he would have printed it. Matches are nice arrows. Have the box empty, open one end clear up, the other half way, so it will stand as a trigger. Now hold it with the scratching-place up; put a match in just so it will stick out toward you a little, with the torpedo end ahead to strike the target, and fire! To prevent accidents, and make it ever new, put box and all the arrows in your pocket, and not leave them with the children. A. W. B.

San Marcos, Tex., Aug. 5, 1884.

Thanks for your fact communicated, friend B. Where there are two queens in a hive, we generally suppose that at least one of them is poor.—Your idea of the match-box for a toy gun is tiptop; but it seems to me that matches are not just the thing to shoot around the house. How would a wire nail do, shot head first?

A GOOD REPORT FROM KANSAS.

As this is my first attempt to write to you, I suppose it is not best to say much, or the readers might say that "another cabbage-head busted." I have 14 colonies in good condition, 9 light, three-banded, and good workers; the other five are dark, or leather-colored, like the light. The best, I intend to make a change with this fall, as there is no clover in this vicinity for bees to work on; so after the spring flowers are over, they are idle till fall. My bees did well the past spring, and are getting ready for fall work.

Spanish needles and heart's-ease are the main plants in the fall. I expect half a ton from the 14; and if the fall is as good as it was two years ago, I shall get double that. S. C. FREDERICK.

Coalvale, Crawford Co., Kan., Aug. 17, 1884.

HONEY CANDYING IN THE COMBS, AND WHAT TO DO WITH IT.

I see in the last number of GLEANINGS a report from J. A. Dillashaw, of Georgia, of honey candying in the combs. Now, I have had the same experience precisely, and I, too, noticed that the bees gathered it from the pines, and by close observation I could discover the little particles of candied honey on the beard. Some of this honey candied more solid than the rest, so I managed to extract about 500 lbs.; the most of it was so solid that I could do nothing with it that way. I was considerably perplexed, as the combs were useless, for I could not sell the honey for any thing worth speaking of. I thought of feeding, but was afraid of the results that might follow from wintering bees on honey-dew, as the honey I had taken was of bad quality, being very dark and of bad taste. As the combs would be of no service unless I could utilize the honey, and, having no alternative but to make the bees take it out, I concluded to winter them on this candied honey. I wintered a good many on this honey exclusively. I do not know the exact number, but probably fifty hives. This honey was gathered last August, and put into the hive in September. My bees came through the winter in apparently as good order as usual, except that I lost more queens than I ever did before during the winter.

HOLLY AS A HONEY-PLANT.

Some correspondent has spoken of holly as being a honey-producer in his locality. With us it is one of the greatest producers, as are also the persimmon, poplar, and locust. This is a very good country for bees, in some localities. Some of my hives have made as much as 200 lbs. of extracted honey apiece, in a season. That is not as much as is made in some localities, but it is considered a good yield here. C. E. FRIEND, 68.

Chester, Chesterfield Co., Va., Aug. 9, 1884.

Friend F., I am glad to know that this honey that solidifies is safe for winter. Where an increase of stocks is desired, I have always recommended it for use in rearing brood—that is, we can work it into bees where bees are wanted.

THE GIANT WHITE-SPIRAL MIGNONNETTE AS A HONEY-PLANT; A GOOD REPORT FROM IT.

I inclose you a sprig of a new giant white-spiral mignonnette. It grows from 2 to 3 feet high, and branches out all around, until a single plant will cover quite a large space, not unfrequently 4 square feet of ground, or a piece 2 feet square. It is the best honey-producing plant I know of; and although I have but a few plants, it is continually covered with bees. By the way they work on mine, I should think an acre of it would be almost if not quite inexhaustible in its honey-supply. I send you a description of it, all of which is not true, as it is far from being even as sweet scented as the common; and the flowers, although very pretty, are not as striking as it is made out to be; but an acre sown with it would look really beautiful; and for honey, I believe it has no equal. I think I shall have seed enough to sow an acre, and would dispose of it on very reasonable terms. I am a great lover of flowers, and raise large quantities of them; have about 50 different varieties of roses. I am never without their beautiful blossoms. G. C. WATSON.

Stoughton, Wis., Aug. 15, 1884.

Friend W., we tried giant mignonnette several years ago, as a honey-plant. It seemed to give a good deal of employment to the bees, just as yours has; but, like you, we could not discover that it was odoriferous at all, and I think the seed catalogues give it altogether too much of a recommend. However, your white spiral is a little ahead of what we had. It seems to be different, judging from the specimen you send. Now, very likely you won't want to raise an acre just yet, and therefore I would suggest that you send seeds to our readers at five cents a package, and you can put in any amount you think proper for that sum. A common package will not probably weigh more than an ounce, and so you will not have more than a cent postage to pay. Now, if you get swamped with orders, just set the women folks at work making little envelopes for you, and then pick out some one among them who is a good writer, to address them plainly. After the friends have tried it, they can decide whether they want to plant more largely of it or not.

MORE ABOUT THE MANNA GRASS; IS THE HONEY REALLY A NATURAL SECRETION?

You asked in the last journal if there was a sign of insects' work to be found upon the manna grass which exuded the sugar. In reply, I would say that at the time I sent you the specimen, I could find no traces of insects; but upon further examination last week I discovered in the white bud from which the flow came, a very small white worm, which I think is the cause of the honey-dew in this case. I will send you a stalk of both kinds. FRANK D. CULVER.

Quincy, Mich., Aug. 11, 1884.

Friend C., I hate to give up but that this manna-grass honey is not a healthy secretion of the plant itself, but perhaps we shall have to. I will mail the sample to Prof. Cook, and we will await his reply.

SOME QUESTIONS ABOUT THE KIND OF SOIL NEEDED FOR DIFFERENT HONEY-PLANTS.

Is marsh land good for any honey-plant? What honey-plants will do best on a stony hillside? The Simpson plant does well here. I could grow rich if I could sell them at one cent each, but have to fight them out, as they come up everywhere so. White clover does not yield much honey this year. We have no basswood. How many acres of buckwheat are needed for fifty colonies? L. W.

Delavan, Wal. Co., Wis., July 31, 1884.

Marsh land well underdrained, I should think, would be good for almost any kind of honey-plant. For a stony hillside, there is nothing equal to sweet clover; in fact, it seems to thrive best on the hardest and most uninviting soil.—It is a hard matter to decide how many acres of buckwheat are needed to keep fifty colonies of bees busy. I have generally estimated it at about one acre for each ten colonies, and this would keep them busy only during the fore part of the day. If the Simpson honey-plant is so plentiful, why not give it a little encouragement? It keeps bees busy all day long.

HONEY FROM THE SUMAC.

I send you a sample of some sumac honey. I see in GLEANINGS almost every kind of plant and bush spoken about, but the sumac bush. It is a great bush to yield honey. It blossoms by the middle of June, and lasts about three weeks. There is quite a lot of it in this locality, and I want to know what you think of it. J. B. PINE.

Bartramville, Lawrence Co., Ohio, Aug. 5, 1884.

This honey has a peculiar aromatic flavor of its own,but it is not at all unpleasant. I should say it ought to rank fairly by the side of clover and basswood.

WILL BLACK BEES WORK ON RED CLOVER?

July 15th I went out to the clover-field, and I heard bees roaring so that I supposed there was a swarm going over; but on looking I couldn't see a sign of any; but the roaring kept on; and on looking at the red clover I saw it was covered with black bees. They would go into the blossoms nearly out of sight. There was no white clover, for the dry weather had killed it all. My bees come in now with loads of buckwheat honey, so that they tumble on their backs and turn over and pant, and then go in on foot. I didn't get much white-clover honey, for it was so dry. Now, "old feller," look out for the waste-basket. A. B. ATHERTON.

Terrytown, Pa., Aug. 9, 1884.

Do not be afraid of the waste-basket, friend A., when you give us facts like the above, and tell us about the bees coming home so heavily laden that they tumble over on their backs, and then have to turn over and go in on foot.

A GOOD REPORT FROM THE HOLY-LANDS; LOTS OF HONEY, BUT CROSS TO HANDLE.

The season here has been only fair, some getting a fine lot of honey, while others get scarcely any. There has been hardly any increase. I have taken over 2000 lbs. (mostly extracted), from 40 so far, with a prospect of a good yield from buckwheat yet. I have one swarm of Holy-Lands; they have gathered more than any other (over 200 lbs.); a good share of it from red clover — the finest honey I ever saw. I should replace my Italians with them, only they are so awful cross; it is almost impossible to brush the bees off the combs when I wish to extract.

As I have had hardly any swarms, most of my queens are one and two years old. Would you advise replacing them with young ones, raised or purchased now? Those brushes I got of you for brushing bees off combs are just the thing.

Adrian, Mich., Aug. 10, 1884. H. BARBER.

HONEY FROM THE OAK; IS IT A NATURAL SECRETION?

Seeing a letter from S. B. Holden, Joplin, Mo., and your comments in GLEANINGS, page 527, I went to the oaks and procured acorns and small balls as you see inclosed, where it appears that an insect of some kind has destroyed the acorn. You will also see what the acorn has in one side, likely some insect. The bees were working at both. The natural secretion on acorns may be scarce.

Clarksburg, Mo., Aug. 8, 1884. J. W. CLARK.

Thank you, friend C. I am inclined to think the oak often secretes a saccharine matter naturally, for the quantity the bees sometimes get from it is quite considerable. It may be true, also, that the punctures of insects increase the amount that exudes, the same way that insects or small birds often set the sap of a maple-tree to flowing. I do not think that anybody has ever told us what the quality of the honey is.

HONEY TO BE NAMED.

I send to you to-day a specimen of honey in a small vial, and wish you would give your opinion as to what kind of blossom it was extracted from, as in this place there is a diversity of opinion, in which I very much disagree, as no such flavored honey has ever been on my plate before. Please get the opinion of other bee-keepers, and forward same, and very greatly oblige me. In this locality there has been the greatest flow of honey I ever knew. In some apiaries, not a single natural swarm, while others have swarmed too much; mine have twice doubled, and the hives almost a solid mass. I have not extracted much, because I would get the stuff I sent you mixed with the better kind, and spoil the sale of the whole. O. E. WOLCOTT.

Vernon, Mich., Aug. 28, 1884.

Friend W., there is no need of my getting other bee-keepers to taste. Any one who has once got the twang would at once pronounce it aphis honey, just such as we have been talking about for months past. It did not come from any blossom at all, and your greatest anxiety ought to be to keep this aphis honey from spoiling the good honey from other sources, and spoiling your reputation as a bee-keeper or honey-producer.

A REMEDY FOR FELONS.

To my brother and sister bee-keepers who may suffer from the terrible scourge, felons, I would like to send a *painless* remedy, that will effect a perfect cure in twenty-four hours, as I have had occasion to prove within the last three days. A lady came here who had been suffering over two weeks with felon on the end of middle finger. I saturated a bit of grated wild turnip, the size of a bean, with spirits of turpentine, and applied to the affected part. It relieved the pain at once. In *twelve hours* there was a hole to the bone, and felon destroyed. I removed the turnip, and dressed with a healing salve, and the finger is well.

Having myself nearly lost a finger with felon, I appreciate the remedy, and would like to benefit others. Though not "bee talk," the above may interest bee-keepers.

Our bees are not doing much this summer. We began with 16 colonies, increased by natural swarming to 27, but have taken only 340 lbs. salable comb honey honey to date. The cold weather of first of July seemed to cut short clover honey, and basswood "was not." Bees are now working on buckwheat and fall flowers; within the past two weeks they have been swarming again, which we *hope* indicates an abundant fall harvest.

MRS. MYRA L. PARSONS.

Linwood, Mich., Aug. 26, 1884.

Thank you, my friend, for your remedy. But will it not be a pretty difficult matter for a good many of us to get a wild turnip? Again, is it the wild turnip or the turpentine that effects a cure? I can hardly think that both are necessary, for I can hardly conceive how anybody should discover by accident such a combination as this. If we were going to hunt up a remedy for felons for experiment, and as the above case could not be guided (or, at least, not very much) by the known property of these articles, it would take a vast deal of experimenting to find even one that is an antidote for the disease. Then to find out a combination of two of these, needs vastly more experimenting, and these two remedies seem to bear so little relation to each other that I can not see how it ever came to be found out. Now, is it not possible that turpentine alone would have done the work just as well? You see, I am a little incredulous in regard to the virtues of medicines made up of such combinations. I have seen a very strong solution of potash give relief in the way you mention. This strong potash may be readily obtained any time by dropping saleratus into vinegar, using the preparation as hot as the flesh will bear it. A quick, painless remedy for a felon is indeed a great boon to suffering humanity.

A HONEY-FOG INSTEAD OF A HONEY-DEW.

Having seen so much in GLEANINGS about honey-dew, and its being caused by insects on the leaves, etc., on the night of the 25th of Aug., 1884, we had a very heavy fog; and after it cleared away the bees were seen gathering the honey-dew off from trees, grass, and also from pine boards that lay out and had been planed smooth. They were apparently crazy after it. A. W. SPRACKLEN.

Cowden, Ill., Aug. 26, 1884.

Friend S., the fog you mention moistened the honey on the leaves of the trees, as I have described in another column, and this set the bees at work. The honey-dew you speak of on the grass and leaves dripped from the trees. The planed board you speak of must be in some place where it dripped from the trees, or spattered on it, I think. By going out entirely away from the trees or other obstacles, and catching the fog on a clean plate, I think you could satisfy yourself that the fog itself was not sweet. However, if it is really a fact that we do have honey-fogs, we should be quite glad to know it.

ZINC HONEY-BOARDS (SEE P. 531.)

The zinc perforated honey-board that I reported in your last issue as a success, are the ones represented by the perforated cut on page 22 of your illustrated catalogue, Feb. 1, 1883. You will know whether it contains the large or small perforations.

A QUEEN STINGS A DRONE.

I intended to put some drones in an introducing-cage with an unfertilized queen, and introduce them all together. The queen bounced the first drone that went in, and stung it. It soon died. I did not put any more in the cage with her.

TINNING ENAMELED CLOTH.

If our enameled cloth, used over the frames, were tinned on the *sides* instead of the *ends*, I could use them to better advantage. It would obviate the necessity of taking the cloth off every time a frame is examined. With the side-tinned cloth, we could roll them back as far as needed, and leave the remaining frames undisturbed. How about that, my friend? W. E. H. SEARCY.

Griffin, Ga., Aug. 6, 1884.

This perforated zinc mentioned is the Jones.—I believe that queens will at times sting workers, drones, or even the hand that holds them; but all these cases are exceptions and not the rule.—We used to make enameled sheets with tin bars on the sides instead of on the ends; but the objection (and, in fact, the objection to removing any mat by peeling it up at the side instead of the end) is, that you move the frames all out of place as you draw it up; whereas if you peel it up lengthwise of the frames, none are disturbed. Of course, this is a great objection where metal-cornered frames are used; but any sort of a frame, when the hive is new, is pretty sure to be misplaced if the mat is pulled up first at the side.

POISON OAK, AGAIN.

I hereby give a short description of the poison oak, mentioned in August GLEANINGS, 1884, p. 528. The plant referred to is a vine and not a tree. It is known here, and understood, generally speaking, as poison oak. It grows sparingly on uplands and hillsides, but abundantly in creek bottoms and low lands, and often climbs to the top of the tallest trees; flowers about three months in the year; the flowers are small, and greenish in color. When the flowers disappear, a small greenish berry appears; and when grown it is about the size of a buck-shot, and they get black when ripe; and when the vine is handled by persons unacquainted with it, or carelessly, it often produces swelling of the flesh. Its poisonous effects are not very dangerous. It yields both pollen and honey. I know nothing of the quality and quantity of honey it produces. The bees sometimes visit it in great numbers. I have never got any poison honey from my hives.

There are several varieties of poison-oak vine. This which grows here is only a common variety, and is much milder in its poisonous effects than the general poison-oak vine. G. W. BEARD.

Milano, Texas, Aug. 9, 1884.

FERTILIZATION OF QUEEN-CELLS.

B. F. LEE'S DISCOVERY BIDS FAIR TO BECOME A FIXED FACT, AFTER ALL.

AS you may suppose, we waited anxiously for reports after having published the process in question. But until this week, every who one reported, reported a failure. Yesterday I was very agreeably surprised to hear Mr. Calvert, who has charge of a part of our apiaries, say that one of our visitors reported having succeeded. To have the matter more direct, I have asked him to make a statement of the facts communicated to him, which the friends will find below:

FERTILIZATION OF QUEEN-CELLS.

A few days ago J. C. Phillips, from West Chester, Butler Co., O., was up to see two of his boys who are working in the "Home of the Honey-Bees." While I was showing him through the apiary he spoke of "doctoring" some queen-cells. My mind went back to B. F. Lee's article in May GLEANINGS, p. 296, which I had disregarded as absurd, and I began to question him. To my surprise he had actually followed out the directions of B. F. Lee, and has *three* queens which laid eggs inside of 2 days from the time they hatched, and continue to be good. I asked him to tell me just how he did it, and this is substantially what he said:

"I took ten cells that had just been capped over, and opened a small hole at the base of the cell. Then with the aid of a straw that was ground fine, like a brush, I poked into a large drone larva just before it was capped over, and squeezed the liquid from the end of the straw with thumb and finger, dropping it into the hole made in the queen-cell. After dropping in two or three drops I then closed up the opening, sealing it over nicely. I fixed ten cells in this way. Four of these cells were built in such a way that I could not cut them from the comb without injuring them. The other six I cut out and put into a wire cage between the frames, but these never hatched. The four hatched all right, and were placed in queenless swarms. Three of these laid eggs inside of two days, while the fourth did not lay for 10 or 12 days from the time of hatching."

Now, friends, this is the statement of a man whom I know to be reliable; but that I may be satisfied that it can be done, I have started to experiment myself, and hope to be able to report in next issue.

J. T. CALVERT, Apiarist.

Medina, O., Aug. 28, 1884.

It seems to me from the above, that all we need to learn is just how the thing is managed, and success will be almost certain. I should have no faith in *caging* queen-cells, for this is an old and abandoned idea; better cut them out and introduce them into the colony as usual, or have them hatched in the lamp or other nurseries. Since the above was communicated, the following is at hand from our friend J. M. Price, with whom I have been acquainted for many years past, and can vouch for his reliability:

Has anybody claimed to have succeeded by the process of artificial fertilization in the cell, described in the May No. of GLEANINGS? Out of about 20 cells tried, I have succeeded in raising a queen that laid inside of 24 hours. The other cells were all destroyed by the bees. Some would keep their cells to within a few hours of hatching, then destroy them. J. M. PRICE.

Tampa, Fla., Aug. 18, 1884.

NOTES FROM CALIFORNIA APIARIES.

SOME MORE "STUNNING" FIGURES.

FRIEND ROOT:—California, with all her varied conditions, presents a correspondingly varied honey report. The season began with all indications favoring an enormous honey-flow. The rainfall was unusually heavy all over the State. In the central counties, and among the more inland portions of those to the southward, the yield was plentiful throughout the season. Along the coast, however, in the southern counties, protracted fogs through May and June prevented the fruition of the hopes to which the rain-record had given rise; but, after the first part of July, matters even there took a much better turn.

From the interior of Ventura County, Mr. Moffitt had reported 40 tons of extracted honey from 400 colonies by the last of June, and friend Wilkin had at about the same time taken as much from his Sespe apiary as he had taken last year; while his Matilija and Cosy-Dell apiaries, nearer the sea, had fallen considerably short.

Last year, by the last of June the honey-season had closed. This year it was seemingly at its best. I have no complete returns from any of the counties, and it is too early as yet to expect them.

BEE-BRUSHES.

The requisites of a good bee-brush do not need to be described. The one which you have lately offered for sale comes up to the standard as well as any I have ever seen. The brush, however, I consider a little too short. If it were one-half longer, it would be more convenient. One requisite for convenience it does not supply. Even with metal corners and tin rabbets, combs are liable to separate with difficulty because of being bridged together. Many beekeepers have neither; and the projecting ends of the top-bars are gummed tightly to the hives. A lever not only starts the frames with greater ease, but, on mechanical principles, with far less jar; yet, the fewer implements one has in hand, the better. But, the brush you sell bends too easily to pry. I inserted a little rod of iron in one of them, and I found it to be a decided improvement. Mr. Wilkin suggests that they be made with brushes at both edges, thereby securing economy of time in washing. No patents to be applied for.

WHITE-SAGE BLOSSOMS.

The qualities, merits, and general appearance of white sage have been already discussed in your journal; still, one peculiarity of the flowers I have never seen mentioned. If you examine a sage-flower freshly picked, you will wonder how a bee can get into the nectar-tube and obtain honey. The corolla, like those of all other mints, is two-lipped. But, unlike all others, the lower lip bends upward till it completely closes the mouth of the tube, and it is so fashioned that it is like a spring. In this way the entrance to the tube is completely closed, and, even with the flower in hand, the entrance is not apparent. When a bee alights on the lower lid, her weight overcomes its spring-like resistance, and she enjoys a little free ride, as in the downward movement at "see-saw."

The way into the tube is thus opened, and the nectar-drops, whose flavor is not surpassed by any in the world, are within easy reach of the gatherer. As soon as the insect flies away, the lower lip springs back and again closes the tube. How flowers having such divergent stamens and pistils as these have, can either fertilize themselves, or be cross fertilized by insects, is a problem that I have not satisfactorily solved, and yet the ovary always ripens its seeds. The bee almost invariably alights square in front on the lower lid, and she is thus between the two stamens, like a man between the horns of a wild California steer. Exceptionally, however, she alights on the side of the flower back of the stamens, forcing the lip down by strength instead of weight. But in neither case have I ever seen a bee touch, however slightly, either the stigma or the anthers.

FORCING SWARMS.

To several colonies that had just begun queen-cells, preparatory to swarming, I gave, by way of experiment, cells from which queens were to hatch within 36 hours. One colony gnawed down the cell thus given it; the others allowed theirs to hatch, and the old queens departed with swarms, leaving the virgins in their places. An extreme example of the time that weather will delay a swarm from leaving, occurred during a very foggy period when a virgin queen hatched out in a hive from which the first swarm with the old queen had issued the day before.

FOUNDATION IN SUPERS.

It is the experience of Mr. Wilkin (and his 1200 to 1500 colonies give him ample scope for observation), that combs of fdn. pulled out in the supers are more liable to be crooked than if pulled out in the brood-chamber. This is especially the case in the height of the honey-yield. The fresh and tender combs are then quickly filled with honey, which weights them down and stretches them. The spaces between the fdn. and the bottom-bars are filled with equally tender natural comb, and the bottom-bars thus become supports. Stretched downward from above, and supported beneath, the combs bulge between the middle and the bottom, presenting one surface hollow and the other convex, in an often unsightly and inconvenient degree. In the brood-chamber they are more apt to be filled with brood, and less liable to be built to the bottom-bars at once.

GRADING HONEY.

It seems to me that honey should be classified in three grades, to be lettered as are the corresponding grades of sugar, that the standard of color and quality of each grade should be maintained invariable, and that all cans, barrels, etc., should be marked (or, rather, lettered) accordingly. The more like a staple our product is rated, the more systematically we look to its marketing, the more rigidly accurate we are in our representations and markings, the quicker and more satisfactory will be the sales.

EXTRACTORS.

I infer from your criticism of the Stanley extractor, that you are inclined to be conservative in that direction. California bee-keepers are, in this respect, perhaps a little ahead of their eastern friends. An extractor whose comb-baskets would not reverse could hardly be given away to any extensive apiarist in Ventura County. Extractors of less than four frames are seldom seen, while six and even eight frame extractors are very common. The hinging of a comb-basket on a strong rod does not in any way weaken it. I am confident, after seeing them used practically, that the only disadvantage attending a many-framed extractor is the longer time required in starting up and stopping. I am equally confident that this is far more than counterbalanced by the advantage of not having to start up and stop so often, and of being able to put all the frames from a super in at once. From an examination of the engraving in GLEANINGS, I am inclined to pronounce the Stanley extractor a practical and desirable machine.

I had nearly omitted to say, that bees here at home, and in Monterey County, are generally doing as well this season as those in any other part of the State. A. NORTON.

Gonzalez, Cal., Aug. 18, 1884.

Friend N., Mr. Davis, who invented the brush you mention, sent us some with fibers on both sides. We did not figure and offer them for sale, because the department of implements for bee culture is getting to be so voluminous that it begins to frighten us. Where will it ever end? If thought desirable, however, we can have brushes made with fibers on both sides. The expense ought to be little if any more than if made in the usual way, because the fibers go right through the wires. In regard to using the brush for prying the frames loose, it seems to me I should have a different implement for that purpose.—Your description of the way bees get sage honey is quite interesting, and one who studies bees and flowers will find that the bees resort to a great variety of ingenious and oftentimes funny expedients for obtaining the coveted nectar.—We avoid the trouble you mention in putting fdn. in the upper story, by using nothing but wired frames.—It is desirable, no doubt, that honey be graded, as you recommend.—Thanks for your ideas in regard to larger extractors; probably you are right about it—at least, we have one or two reports which seem to indicate that an extractor, to hold four combs, or even more, is desirable. You will notice that we regularly furnish four-comb extractors, described in our price list. I think there will be a difference of opinion in regard to the desirability of having extractors so made as to reverse the combs.

HUMBUGS AND SWINDLES

PERTAINING TO BEE CULTURE.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

SINCE our remarks on page 514, under the head of Humbugs and Swindles, a friend has called our attention to the fact that we put in a commendatory notice of the Golden bee-hive on page 128, March No., 1883. Our friends who have GLEANINGS on file can turn back and see to what subterfuges the Golden bee-hive folks will resort. It is true, that on that page over a ton of honey is reported to have been received in eight days from eighty colonies; but the writer distinctly states afterward, that what he calls the Golden hive had the features entirely dropped on which the patent was granted. These patent-right swindlers have put in the last part of the letter, and my remarks with it, and now exhibit it as a testimonial for the Golden bee-hive. It seems to me anybody would be very short-sighted who would accept a testimonial in that shape, without reading the whole of the article, or taking the article in a mutilated state. The title itself ought to be a warning, for it is headed, "The Golden Bee-Hive, With a good Moral on Patent Hives in General."

We copy the following from the *American Agriculturist:*

"THE GOLDEN BEE-HIVE."

Prof. A. J. Cook, the eminent apiarist of Lansing, Mich., sounds a shrill note of warning in the Detroit *Daily Post*, which should reach bee-keepers everywhere. He writes: "I am told that I use the 'Golden Bee-Hive;' that he (the patentee) has sold hundreds about Lansing; that the hive will surely winter bees, etc.

"I never used said hive; I do not know of one used around Lansing, and the hive so far as I know is not used by a single prominent bee-keeper in the United States." Prof. Cook further states, that "any bee-keeper has a perfect right to use all the valuable features claimed for the 'Golden Hive.' The Langstroth is free to all, and would be preferred by every bee-keeper of experience to this so-called patented hive." Concerning the wintering of bees, Prof. Cook writes: "When the bees are dead next spring, as they surely will be in this hive, if we have a severe winter and his directions are followed, the 'patentee' will be in his Southern home, and his warrant will be utterly worthless. He says it secures more honey. This is absurd. Bees gather all they can in any hive, if given room. Every hive of this kind sold in the country is a damage.

"This man, I am told, has taken four hundred dollars from the farmers around Lapeer, Mich."—It would seem from the words of a leading apiarist, above quoted, that the "Golden Bee-Hive" is something for all bee-keepers to let severely alone.

With such authority as Prof. Cook for backing, it seems to me that our friends who have been investing in rights in the Golden bee-hive ought to be satisfied without further parley. Mitchell has pretty much got through; H. H. Flick has given up trying to blackmail bee-keepers, and it looks as if the Golden bee-hive were the only humbug at present doing anybody any harm. Show every agent the gate as soon as he mentions the Golden hive to you; have the above copied into your county papers; pass the news around as much as you can, and teach this man, as we have others before him, that he can make more money in an honest way than he can by swindling, especially if he devotes the same energy and zeal to some good purpose.

REMINDERY.

NOW is the time in most localities to get ready for winter. If your bees have not abundant stores, or are not getting stores on account of the drought, or any other cause, you should begin feeding at once. I should use granulated sugar in preference to any thing else, and I would prepare it by pouring on boiling water, and stirring it until it is about of the thickness of thin honey. If you commence now (and, as I have said before, I think it by far the best way), commence by feeding gradually at first, and when you find that feed makes them grow, and is going into the work all right, you can increase the dose. By the time cold weather sets in, there should be a good strong army of bees, and there should be stores sealed up all around the brood-nest. If the frames are filled so as to bulge out into all the interstices, all the better. If you commence so late that your nucleus is comparatively weak, they will probably be weak in the spring, and not be able to get a full crop of honey next year. Colonies that are to be brimstoned, where there are bees enough they may be brought up very quickly, and an expert would make good stocks of them almost any time — say even in the dead of winter, if you cared to take the pains to fuss with them. If you give them an Italian queen, you will have an Italian colony in the spring. Some of the friends seem to lose sight of this. It won't pay you to send off for Italian bees where you have to pay $2.00 per lb., or even $1.00, when you can get common bees at home for 25 or 50 cts. per lb. Buy a good queen to put with them, and, no matter what the bees are, they will be all right almost before you know it. I like to sell goods, but I like a great deal better to see the friends take what they have already got, or something they can buy cheaply of their neighbors, and get a start at a comparatively small expense. You can send for new-fangled strawberries, if you like; but an old gardener told me a few days ago, that if one wanted berries by the bushel, he would stand a very much better chance by taking the good common varieties we have already all around us, than to pay big prices for the new-fangled sorts. It is much the same with bees. The Italians are now almost everywhere, and their superiority is fully established. If your means are limited, get a good queen from somewhere near home, and take the bees you find all around you, and go ahead. A veteran in the business, who understands *exactly* what he is going to want next year, will doubtless do a wise thing in purchasing his supplies for the coming season; but the great mass of beginners would enjoy themselves a great deal better to take a few bees and try the thing without much outlay; and if you want to stop anywhere you are not much out of pocket.

CONVENTION NOTICES.

The Progressive Bee-Keepers' Association meets the first Saturday in October next, at Bedford, O. General invitation. **J. R. Reed**, Sec.

The next session of the North Am. Bee-Keepers' Association will be held in the city of Rochester, N. Y., the 28th, 29th, and 30th of Oct., 1884. At the last meeting of the North-Eastern Bee-Keepers' Ass'n, a competent committee was appointed to secure a hall, and to make other necessary arrangements. A full programme will be prepared, and a general good time may be expected.

L. L. Langstroth, *Pres.* **C. C. Miller**, *Sec.*

The fifth semi-annual meeting of the Western Bee-Keepers' Association, will be held at Independence, Mo., Sept. 17, 18, and 19, 1884, and at the same time and place will be held the annual honey and apiarian show. There will be a liberal premium list, and all are invited to come and compete, and take part in the deliberation of the convention.

C. M. Crandall, Sec.

Independence, Mo., Aug. 8, 1884.

The bee-keepers' of Hancock Co., O., met in Findley, Aug. 9, and organized a bee-keepers' association, to be known as the Hancock Co. Bee-Keepers' Association, 22 persons paying 25 cts. each for initiation fee, signed the roll, and became members. Meet again at court-house, Findley, Sept. 20, at 10 o'clock. All bee-keepers are cordially invited to be present.

P. A. Riegle, *Pres.* **S. H. Bolton**, *Sec.*

A special invitation is extended to every bee-keeper in the country to come to Kalamazoo, Mich., Sept. 15 to 19, and make an exhibit at the State Fair. Preparations are being made to make it the largest exhibition of this kind ever held in this country. We have a fine building, and large premium list, and want it filled by the bee-keepers from all over the country. Ample room for all, with an expert to do the judging, can not fail to give satisfaction. For premium list and any other information, apply to

H. D. Cutting, Clinton, Mich.

A bee-keepers' meeting was held at Hanford, Tulare Co., Cal., July 28, at which the "Central California Bee-Keepers' Association" was inaugurated by the adoption of a constitution and by-laws, and the election of the following officers: J. F. Flory, President; George Kamp and F. M. Hart, Vice-Presidents; C. O. Lane, Treasurer; and George Hobler, Secretary. The next meeting will be held at Hanford, on the first Wednesday in September, at 9 A.M., when all interested in bees and honey are cordially invited to attend. **Geo. Hobler**, Sec.

Hanford, Cal., Aug. 1, 1884.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, SEPT. 1, 1884.

Let the words of my mouth, and the meditation of my heart, be acceptable in thy sight, O LORD, my strength, and my redeemer.—Ps. 19: 14.

THE best we can pay for wax at present is 26 cts. cash, or 28 in trade.

REMEMBER the Convention at the State Fair at Columbus, O., Sept. 1st to 5th. I expect to be present Thursday and Friday.

THE cases for shipping one-pound sections, as per engraving on page 586, are now reduced in price in lots of 100 or more to $16.00 for the large size, and $12.75 for the small size. The above prices do not include glass.

THE HONEY-CROP OF WISCONSIN.

TWO of our Wisconsin friends have written a little protest to friend Lewis' statement, that the season has an excellent one. From reports we have received, I think it at least pretty fair in some localities. The one on page 580 of this number looks pretty well, it seems to me.

SEEDS OF THE CALIFORNIA MOUNTAIN SAGE.

UNTIL this season it has been a pretty hard thing to get, and we have been paying for it 25 cents per ounce; therefore we were a little surprised a day or two ago when we received by mail two big bags full. Please do not send us any more, friends, for we have probably all we shall need for some time to come. We can now furnish good fresh seed by mail for 5 cents per packet, or 35 cents per ounce.

GOODS FOR NEXT SEASON.

WITH a view of preventing the evils attending such delays as we were obliged to make during the honey months of the season past, we are now filling our capacious warehouse with sections, chaff hives, Simplicity hives, and almost every thing else that anybody will be likely to want next season. We have already a larger stock of beautiful sections stored away ready for shipment than we ever had before at any season.

BOILER FOR SALE.

WE offer the steam-boiler we have now in use for sale. It has a 48-inch shell, is 12 feet long, containing 48 3-inch flues. The boiler has been in use about six years; but new flues were put in last Christmas, so that it is virtually almost as good as new. It has never been injured in any manner whatever. The only reason why we wish to dispose of it is, that we are putting in a larger one, for the increased demand of our work. We know exactly what a new one like this can be bought for, for we obtained very close figures for putting in another like it, instead of one large one. Such a boiler new, including front grates, etc., will cost at the boiler-shops, $475. We offer this just as it is for $225, and warrant it perfect in every respect.

GOODS TO BE EXHIBITED AT FAIRS.

ALMOST every day we are solicited to send goods to be put on exhibition at conventions and fairs. With the large amount of business we have now on hand, we can not undertake to do this; but those who wish to purchase for the above purpose can have them at a discount of 25 per cent; or after the fair is over, if they do not succeed in disposing of them, they may be returned, providing the one who orders them pays expenses both ways. If a judicious selection is made, they can ordinarily be sold at almost if not quite the retail price while on exhibition. Orders for such purposes, as a general thing, shipped by first train.

ADDITIONAL DISCOUNT ON BEES, QUEENS, ETC.

As our apiaries are now very full, we will, until further notice, allow a discount of five per cent on orders amounting to $5.00 or upward. Discounts on larger amounts, as per price list. We have a very nice stock on hand of untested queens, reared in our own apiaries from the best imported stock, and reports have for some time back showed that almost every queen proves to be purely mated. Perhaps I might mention here, that queens reared directly from imported stock are, as a rule, dark, so that you need not expect *yellow* queens; but you may expect yellow bees every time, as soon as their workers hatch. Untested queens from the new importation by Mr. Howard, from Palestine, will soon be ready. Price, one-fourth more than Italian queens. We have now in our apiaries eight of these Palestine imported queens. Price, safe arrival guaranteed, $15.00.

A SYMPTOM OF A GOOD TIME COMING.

WE clip the following from the *Christian Herald and Signs of our Times:*

> A conscientious printing company out in New Jersey has taken a decided stand on the liquor question. The Crump Label Company, of Montclair, N. J., has issued a notice that it will print no more labels for liquor-dealers. One of the directors thus explains its attitude: "We employ between 300 and 400 hands, and there are not more than half a dozen of the men who have not signed the temperance pledge. Some of them were hard drinkers. When the present temperance-awakening struck Montclair, and our men began to feel its influence, we felt as though the company ought to do something too. A company can't take the pledge, but this company could show its desire to be with the men by refusing to work for the liquor trades. So its president, Samuel Crump, promised for the company that no more work of that kind should be taken. We have been making for one liquor firm about 10,000,000 labels a year. About $20,000 worth of business a year is what this decision will cost the company."

We are interested in the above in two ways. The question has come up in our office already, as to whether we should print any thing that anybody wanted (within the bounds of decency, of course), providing he furnished the copy and paid for the work. I believe we have never had an order for labels for liquors—perhaps because of the reputation of our establishment. Our friend George Gray, shortly after he advertised as label printer, had an order, accompanied by the cash, for some labels for some rare wines. If I remember correctly, the cash was returned, declining to do the work, giving his reasons.

HOW TO MAKE PLANTS GROW

TAKE a long spade (an underdraining spade is best), and push it into the ground a little distance from the plant, and then tip it enough to make the ground break a little. Go clear around the plant in this manner. Of course, you must not get so close to the plant as to injure the roots. After having loosened and broken the ground in this way clear down to the sub-soil, remove the surface dirt until you come pretty near to the roots. Fill the cavity thus formed with old well-decomposed stable manure, and bank it up a little so as to make a mulch. When a rain comes, the water passing through this old manure will wash the soluble parts down into the cracks made when you loosened the ground. If it should be a dry time, and does not rain, give the manure mulch a good soaking about once a week, just at night. In this way you can make honey-plants, strawberries, raspberries, fruit-trees, or any thing else, boom to your satisfaction. Bone dust and guano will answer the same purpose; but with guano you must be very careful, or you will kill your plants. A very small quantity of fertilizing material dissolved in a large quantity of water produces wonderful results on the roots of plants.

KIND WORDS FROM OUR CUSTOMERS.

I received those goods; the starter machine is "just splendid;" the other goods were satisfactory. Thanks for promptness. B. F. PASLEY.
Zearing, Iowa, Aug. 18, 1884.

The two "indifferent imported" queens are O. K. in colonies. They are far from indifferent in laying, and please us well. A. W. BRYAN.
San Marcos, Tex., July 30, 1884.

The "New Edition A B C" ordered of you is received. I have *carefully* examined it, and am very much pleased with the improvement made. It, both in matter and mechanical execution, is a work of which you may well be proud. I can only think of one way in which to improve it; that is, to have a full-page likeness of one A. I. Root as a frontispiece. It would then be what the girls call "just splendid." C. J. F. HOWES.
Adrian, Mich., Aug. 15, 1884.

I was much surprised to see so many bees with the queen. I think it will help to make her contented. I tell my grandchildren they are the queen's "maids of honor." I believe I get the most information from reading letters from the little ones. I think you must have great patience to make out their letters. My grandchildren are quite interested with me and my bees, and read GLEANINGS.
MRS. C. STEVENS.
Monmouth, Ill., Aug. 4, 1884.

We received the goods last evening in first-class order. Receive thanks for sending them so promptly. We had a rousing big swarm come out last Friday afternoon. We were almost in despair; got an old box, put two brood-frames and the two frames of section boxes in; we managed to keep them together; transferred them this morning on the same stand; have a young queen. Her brood is coming out already—all pure. She is yellower than her mother. The swarm must have about 5 or 6 lbs. of bees. WM. LORRIMAN.
Pottsville, Pa., Aug. 12, 1884.

SHIPPING BEES TO MANITOBA.

I have this morning received the pound of bees shipped by you on the 4th inst. I am delighted to say, they arrived in splendid condition, there being not more than a couple of score dead. Notwithstanding the large amount of candy you must have put in with them, I notice the boxes are all empty; consequently, had I not received them until Monday (as with the last), probably these would have met the same fate. I have succeeded in amalgamating them with a weak hive all right, by the use of the smoker, and burning some dried wild mint with the wood, and they now appear as happy as possible. I must accord you my sincere thanks for your generosity in sending me these bees; for I had neither claim nor idea that you would do so. THOS. COLLINS.
Portage la Prairie, Man., Aug. 9, 1884.

FOR SALE.

160 acres, 2 running springs, 800 bearing grapevines of 7 varieties, and apricots, nectarines, peaches, figs, etc. House and implements, shop and tools, stable, horse, harness, and spring-wagon, 115 colonies Italian and hybrid bees, and fixtures, in double-story Langstroth hives, in extra condition, straight comb foundation, combs 1 and 2 years old, from which I extracted 26,355 lbs. of honey this year. This is a very healthy locality, and the amount of honey talks as to the condition of bees and place for bees. All this I will put in at $1500, to strike quick sale, on account of Eastern business.

CHARLES L. BARTH,
17d **Nordhoff, Ventura Co., Cal.**

THE VERY BEST
TESTED AND UNTESTED ITALIAN QUEENS
By return mail. Send postal for circular.
G. H. KNICKERBOCKER, PINE PLAINS, N. Y.

I HAVE a lot of tested black queens, which I would sell at a very low price in exchange for Italian queens. Address
17d W. P. DAVIS, Goodman, Anson Co., N. C.

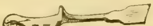
DO YOU WANT TO BUY BEES?

I will sell to any person wishing to buy bees, from one to 60 colonies of black, hybrid, and Italian Bees. I will not be undersold. Test my prices; blacks: One Langstroth hive, $4; two, $7; three, $9; five, $11; or ten, $20.
Hybrids: One Langstroth hive, $5; two, $9; three, $10; five, $12; or ten, $22.
Italians: One Langstroth hive, $6; two, $11; three, $12; five, $15; or ten, $25. Queens are all good. These prices run only for September and October.

G. W. ALBRECHT,
17 **Dundas, Calumet Co., Wis.**

COMBINED PUTTY-KNIFE AND GLASS-CUTTER.

Every bee-keeper wants a glass-cutter, as a matter of course. The pattern shown below seems to find considerable favor:



OUR FIVE-CENT GLASS-CUTTER.

We introduced this about a year ago, and the sales are quite large. We have never had a complaint of one of them, that I know of. If wanted by mail, send three cents for postage.
A. I. ROOT, Medina, Ohio.

COMB FOUNDATION
MACHINES
$10.00 TO $50.00.

SAMPLES OF FOUNDATION FREE, OR WITH OUR ONE-POUND SECTION BOX BY MAIL FOR FIVE CENTS.

For illustration see our Illustrated Catalogue of Apiarian Implements and Supplies, mailed on application.

A. I. ROOT, Medina, O.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

For Italians at 60 Cts.,

Or $5.00 Per Dozen, Address
DR. JOHN M. PRICE, TAMPA, HILLSBORO CO., FLORIDA.
15tfd

The Bee-Keepers' Guide;

Or, MANUAL OF THE APIARY.

11,000 SOLD SINCE 1876.

12TH THOUSAND JUST OUT!

10TH THOUSAND SOLD IN JUST FOUR MONTHS!

2000 SOLD THE PAST YEAR.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs. 10-18b

A. J. COOK, Author and Publisher,

State Agricultural College, Lansing, Mich.

IMPROVED SMOKERS, With Handle, $1.
J. L. HYDE, Pomfret Landing, Windham Co., Ct.
15-17-19-21-23d

APIARY OF 90 COLONIES

For Sale Cheap.

See GLEANINGS of Aug. 15th.
J. B. COLTON,
17tfdb Waverly, Bremer Co., Iowa.

TESTED QUEENS, $2.00. Untested, $1.00. 4-frame nuclei, $3.50 and $4.50. Mississippi wax-extractor, $3.00. OSCAR F. BLEDSOE, Grenada, Miss. 3tfd

---

I WILL MAIL YOU my 20-Page Price-List of ITALIAN, CYPRIAN, and HOLY-LAND BEES, NUCLEUS COLONIES, QUEENS, and APIARIAN SUPPLIES, by sending me your address on a postal.
11tfd **H. H. BROWN,** Light Street, Col. Co., Pa.

THE NEW DAISY HATCHING MACHINE. Simple, self-regulating, successful, cheap.
17-18-19d J. HASBROUCK, Bound Brook, N. J.

READ THIS.

I have two of Howard's imported Palestine queens. Warranted queens reared from them, $1.25 each. Tested Syrian or Italian queens, $2.00 each. One copy of the Bee-Keeper's Handy Book, or one of our Drone and Queen Traps given with each queen.
HENRY ALLEY,
17-18d Wenham, Mass.

Given Comb Foundation a Specialty.

Also Apiarian Supplies. Circulars, and samples free
12tfd G. H. KNICKERBOCKER, Pine Plains, N. Y.

WANTED, SITUATION, by a young man with some experience as assistant, or to take charge of apiary. Good reference can be given.
Address J. S. S., care CHAS. F. MUTH,
17d. Cincinnati, Ohio.

---

50 CENTS EACH!!

HOLY-LAND AND ITALIAN QUEENS,

Raised from Tested Mothers, in an apiary among pure Italian and Hybrid-Italian drones only, and mated to one of the two. Will furnish them till October 10, 1884, safely delivered.

ABBOTT L. SWINSON,
17-18d. **Goldsboro, Wayne Co, N. C.**

FOR RENT.—In Western North Carolina, 800 acres of forest land—the best bee-pasturage in United States; 25 acres in clover and timothy. Small house and barn near a northern settlement and village. The finest climate for an invalid in winter or summer.
H. STEWART,
17-tfdb. Hackensack, N. J.

I WILL SELL HYBRID BEES for $5.00 per full colony in Simplicity hives (I take one frame out for more space). I leave 9 frames with straight combs, and all the brood in the hive. Safe arrival guaranteed by express. Can ship any day; have also a few in Adair hive at same price.
17 H. M. MOYER, Hill Church, Berks Co., Pa.

---

23 SWARMS of full-blood Italians for sale, with 10 and 11 Gallup frames to the hive, and stores enough to last till May. Will take $103.00 for them.
17d JULIUS FROSCH, Elmore, Ottawa Co., O.

QUEENS BY RETURN MAIL. I am now up with my orders, and can send by return mail. Send me your orders, and help me out of the fire.
J. T. WILSON,
17tfd Mortonsville, Woodford Co., Ky.

ITALIAN QUEENS FOR 75 CTS. EACH.

I have a few queens from imported Italian mother that I will sell at 75 cts. each. Also some very choice golden Italians (H. B.), for $1.00 each. The above are young, and fine layers. Tested Italians, $1.50. No more Cyprians or Holy-Lands this year. I have also 25 Brown Leghorn pullets, and 20 cockerels, all select birds of my own raising. Price $1 each, or $1.50 each if I select the very best. Raspberry plants in their season, wholesale or retail.

C. M. Goodspeed,
17d **THORN HILL, ONONDAGA CO., N. Y.**

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

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I WANT TO SELL.

Being unable to keep, for want of room, my accumulation of Simplicity Hives, Frames, Sections, Chaff hives, and all Apiarian Supplies, Price list free.

C. P. BISH,
17-19d **PETROLIA, BUTLER CO., PA.**

BEE SUPPLIES.--

We furnish EVERY THING needed in the Apiary, of practical construction, and at the lowest price. Satisfaction guaranteed. Send your address on a postal card, and we will send you free our large Illustrated Catalogue.

17tfd (ESTABLISHED 1864.) E. KRETCHMER, COBURG, MONTGOMERY CO., IOWA.

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KIND WORDS FROM OUR CUSTOMERS.

SIMPLICITY HIVES.

I would not take $10.00 apiece for my Simplicity hives, and do without them, they are so handy for almost every thing. **Clarence Hopkins.**
Port Gibson, Miss., July 24, 1884.

OUR FOUNDATION-MACHINES.

The comb-machine and other goods sent me some time ago are *more* than satisfactory—all of them. Thanks for exact dealing. **W. W. Loveland.**
Lawrence, Mich.

That fdn. machine works splendid; the bees accept the fdn. as readily, I believe, as they would their comb. It is surprising how they go for it. I would not believe they would accept it so readily; it is certainly a grand success. **Wm. Kimble.**
Dewitt, Clinton Co., Iowa, June 23, 1884.

THE COLD-BLAST SMOKER FOR ROBBING BEE-CAVES.

I find them a great help in robbing caves, being able to force them to the back end of the cave, and out of the way. **R. J. Carson.**
Junction City, Texas, Aug. 29, 1884.

Received goods the 10th. Every thing came through safely—nothing missing. Many thanks to yourself, and every one who had a hand in filling the order; to say I am satisfied, as far as I know, is stating it short of the reality. I will report again.
Foxboro, Mass. **Abbie C. Holden.**

GLEANINGS AS AN ADVERTISING MEDIUM.

I am exceedingly grateful to you. I have had quite a number of applicants to my offer, showing the large circulation of your book, and also the great interest taken in bee culture. **F. P. Perret.**
Franklin, La., Sept. 1, 1884.

CHAFF HIVES AND THE A B C BOOK.

I have 9 swarms at present; wintered three swarms, all I had last summer; used chaff hives; would not take $5.00 for the A B C, if I could not get another. **H. C. Fuller.**
Millington, Tuscola Co., Mich., July 31, 1884.

At last the hives and extractor came, just one month on the way; received them June 30, and cost in freight, $3.80. That is cheap enough, and I am well pleased and satisfied. I transferred a swarm July 1. It took me a good while, but they are doing finely to-day. I put in three frames, some brood cut out of the old hive; put these between the others, so to-day they have started straight combs in the other frames also. They work also in the sections on fdn. On the whole, it was more successful than I anticipated. But, dear me! there must be a bushel of bees in the hive, as, in transferring, all was bees. I got about 2 gallons of honey out of the old hive. **Charles Gutekunst.**
Bayou Chene, La., July 4, 1884.

The five 245 scales have arrived at last, all right. They are a splendid article, worth double the money they cost, to any one who needs a scale. I have them all sold. **Robert Tonert.**
Atwood, Ont., Can., Aug. 28, 1884.

The goods ordered of you came through all right, and I think every thing is cheaper than I expected. The smoker is worth nearly its cost every time I use it. **A. C. O. Lomen.**
Decorah, Iowa, Aug. 25, 1884.

STARTING ON A SOLID BASIS.

I am one of your A B C class, and so have followed your instructions, both in managing bees and making hives, even to not getting into debt for bees, though I often felt like disobeying, as I was too poor to send for even a quarter's worth of GLEANINGS; however, as I have now a chance to do so, I make haste to embrace it. **John Lillie.**
Mt. Carmel, Ills., Aug. 20, 1884.

THE LENGTH OF TIME IT TAKES TO CHANGE A COLONY OF BLACKS TO ITALIANS.

The queen I got of you the 25th of July is all right. There is no blacks left in the colony. The colony is all full Italian, I think but I never have seem any before. They are a bright yellow. On the 25th of August just one month from the day introduced, I saw the first colored bee. **L. M. Long.**
Edina, Mo., Sept. 10, 1884.

THE STORY OF THE BIBLE, ETC.

The queen is received all right, introduced and laying. What a wonderfully convenient and ingenious way you have for sending and introducing! You seem to be *perfecting* bee culture.

Our children are enjoying ever so much those stories from the book you gave them (in the story of the Bible). When we are reading it to them they beg us to "go on." **A. T. Reed.**
Chardon, O., Aug. 20, 1884.

OUR HACK SAW FOR CUTTING IRON.

The hack saw worked like a charm. Our blacksmith says he could not keep shop without one. They are just the thing to cut off bolts, and any thing else with. Last week, while making some repairs at the limekiln he cut off a T rail with one blade, and the saw was not used up either. **Geo. H. McGee.**
Point Marblehead, Ohio, Sept. 8, 1884.

OUR NEW HONEY-PAILS.

Honey-pails came promptly to hand, all bright and shining—a happy contrast to those received from other dealers. Charges $2.20, making cost a little high; arrival by freight would have been uncertain. Money will not always buy a certainty, and peace of mind. I only regret that I did not send a larger bill. Honey is about half a crop. White clover was unusually good; basswood almost a total failure, on account of blight. I shall get some fall honey.
Lucas, Wis., Sept. 6, 1884. **Z. Bliss.**

KIND WORDS FROM THE MAN WHO MAKES THE DAVIS BRUSHES.

I will tell you what my neighbors said when I commenced to make the brushes. Some said, "You are fooling away your time;" others would say, "You must be going crazy;" but when you ordered a gross they thought that was not so bad; then the next gross you ordered they said, "He must do a big business;" then you ordered 2 gross; then they said, "*A. I. Root* must be crazy." Then came the order for ten gross, before I had commenced the last two you had ordered. That capped the climax. Then our P. M. wanted me to write to the P. M. at Medina, and find out about your responsibility. I told him I was perfectly satisfied about that; so when a draft came for every shipment, the folks opened their eyes bigger than ever; and what "got them" the worst was, I made all of the brushes while it was so rainy that I could not have worked out of doors at all. So that was almost clear gain. Well, friend Root, we have not had any rain since the third of July; every thing is parched, so you can imagine how my bees are doing. It has been a poor year for honey in this neighborhood. I have not taken all of my honey off yet, but I think I shall get 100 lbs. per colony. **J. S. C. Davis.**
Ballstown, Ripley Co., Ind., Sept. 8, 1884.

HONEY COLUMN.

CITY MARKETS.

DETROIT. *Honey.*—The honey market is very weak, owing partly to the recent drop in sugar, and to the fact that a good deal is being offered, and the weather is still warm. Good comb is offered for 14@16c. *Beeswax*, 30@35c.

A. B. WEED,
Sept. 13, 1884. Detroit, Mich.

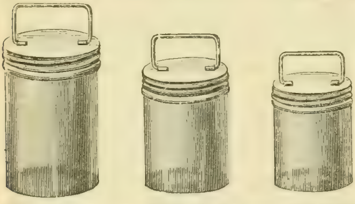
KANSAS CITY.—*Honey.* — Receipts quite liberal, and lower prices are the rule. California is now flooding the country with their great surplus of honey, particularly extracted, which may go below 6c., although we have as yet sold none at less than 7c. Comb is also plentiful, and large buyers usually get the prices they offer, which now range for a choice article 14@15c for 2-lb. sections; 15@16 for 1-lb., and 18@19 for ½-lb. Dark and ugly packages 1 to 2c lower. *Beeswax*, none in the market.

CLEMONS, CLOON & CO.,
Successors to JEROME TWICHELL,
Sept. 9, 1884. Honey Depot, 514 Walnut St., K. C.

A LARGE HONEY CROP.

The honey market is badly demoralized. Buyers north look for a very large crop, and are not disposed to take hold. The merchants here don't care to buy any more than they feel under obligation to take of their customers. From what information we can gather, the crop of extracted honey will be considerable as compared with recent years, but nothing like the extraordinary crop of 1877. It will, however, be a large crop. The quality has never been excelled. So many bee-men have decided that it is more profitable to use extractors or strainers than to market the comb, that the proportion of comb to the total yield is much less than in other good honey years. It is probable that present prices, or something near them, will be maintained, say 4½ cts. for extracted in new cases and cans, and 9 to 11 for the best comb.—*San Diego Sun.*

GLASS HONEY-PAILS.



While almost everybody wants some kind of a pail to carry honey in, many also prefer, for liquid honey, a glass utensil to any thing else. Both objects have been secured by the pails shown in the cut above. The top screws on, like the cap of a fruit-jar, and they can be used with rubber, if desired. The bail turns down out of the way, when they are to be packed, or when it is necessary to set them on shelves. Prices: ½-lb. pail, 5c; 10, 45c: 100 $4 25; 1-lb. pail, 8c: 10, 75c: 100, $6 50; 1½-lb. pail, 10c; 10, 90c; 100, $8 50.

A. I. ROOT, Medina, Ohio.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

THE NEW DAISY HATCHING MACHINE. Simple, self-regulating, successful, cheap.
17-18-19d J. HASBROUCK, Bound Brook, N. J.

FOR SALE.

30 COLONIES OF BEES

In 2-story Langstroth and Simplicity hives, ***At $2 per Colony***, loaded on cars at this place. The hives are new and the bees are in good shape. The bees are a cross between the Italians and Holy-Lands.
18tfdb **THOS. A. GUNN, Tullahoma, Tenn.**

NOTES FROM THE BRIGHT-BAND APIARY ABOUT THE COMING BEE.

KIND FRIENDS, I am glad to state that I never sold queens that gave as much satisfaction as does the cross between Italians, Cyprians, and Holy-Lands. They are undoubtedly less apt to sting than any race of bees; and for honey, I shall not hesitate for a moment to state that they beat them all; and for beauty, I only ask you to send two letter stamps for a sample of live workers, and see for yourself. I can also furnish the very best queens, raised from imported Italians, to those who prefer them. Price of either race, untested, but laying, 90 cts. each. Tested, $1.50 each. Full instructions sent with each queen, and safe arrival guaranteed. Who will send $50 for 100 untested queens, and give me 30 days in which to fill the order? Or who will send me $30 for 50 on same terms? I would most probably begin to send some on receipt of order. All over two orders for 100 will be returned.

CHAS. KINGSLEY,
15-tfdb. Benton, Bossier Co., La.

P. S.—There is no foul brood in this State, that I know of.

2,000,000 STRAWBERRY PLANTS.

1 000 000 RASPBERRY PLANTS.

Besides an *immense* stock of **Fruit Trees, Russian Mulberry, Kilborn and Wager Peach, Blackberries, Grapes, &c. Catalogue Free. Purdy's Fruit Recorder** from Sept., 1884, to Dec., 1885, for only One Dollar. **Purdy's Small Fruit Instructor,** tells all about planting, growing, marketing, etc., for only 25 cents; cloth covers, 40 cents. **Splendid Terms** to Club Agents and those who wish to sell our stock. See our Catalogue before buying elsewhere, and send us a list of what you want, with number of each, for us to price. Marlboro raspberry, 50 cts. each; $5.00 per dozen.
18d **A. M. PURDY, Palmyra, N. Y.**

—)1885(—

Queens from Europe by Mail

A COMPLETE SUCCESS.

Cyprians, Syrians, Carniolans, Italians, and Palestines: all reared in their native lands. Prices same as in 1884, except Palestines 25 per cent less than Syrians. See GLEANINGS for Jan. 1, 1884, page 19. Ten per cent off on all cash orders mailed before Jan. 1. Safe arrival guaranteed.
18-19-20d **FRANK BENTON,**
Munich, Germany.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher priced ones.

Six Italian hybrid queens for sale at 30 cts. each. Address A. R. KOHNKE, Youngstown,
Mahoning Co., Ohio.

FOR SALE.—Some choice hybrid Cyprian queens, 4 for $1.00. Some almost pure.
B. F. CARROLL, Dresden, Navarro Co., Tex.

I have 6 hybrid queens for sale at 50 cts. each; bred from pure mothers; safe arrival guaranteed.
E. W. STAYTON, Martin, Weakly Co., Tenn.

I have 8 or 10 hybrid queens that give well-marked workers, that I will dispose of after the 15th of Sept. at 20c for the dark queens, 30 for the yellow. Safe arrival guaranteed.
C. C. CORKMAN, Coxville, Pitt Co., N. C.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.
F.A.Whiting

Vol. XII. **SEPT. 15, 1884.** **No. 18.**

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00, 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

L. L. LANGSTROTH.

A GENTLE REMINDER OF WHAT WE OWE, NOT TO THE MEMORY OF THE DEAD, BUT TO THE LIVING.

THE communication which we give below was sent us with the following note, and I not only think it worthy of a place in GLEANINGS, but I take pleasure in putting friend B.'s name in full at the bottom of the communication.

Mr. A. I. Root:—Attached I send you a communication, which, if you think well of, please publish. If you are not going to second it by your efforts in the editorial department, and get the other journals to do likewise, it will fall flat, *sure.* You may sign my own name, or leave it as it is, just as it suits you. I am sorry I have not time to re-write it in a more legible manner.

My bees have just gathered a quantity of pure, white, crystal-clear honey from figs. Started in March, 1883, with one; increased to 22 from that, and bought one. I presume I shall secure from 300 to 500 lbs. of the fig honey before the season is over. S. C. B.

Editor Gleanings:—On page 336 of GLEANINGS for May 15, Mr. J. E. Pond, of Foxboro, Mass., after giving a concise and interesting biography of Rev. L. L. Langstroth, concludes as follows:

> "Mr. Langstroth is now an old and feeble man His health was impaired in early youth by too close attention to his studies, and now he is able to do but little for himself. For a few months past he has been in better health than for some years, and we hope his health will remain good, and he be spared for many years to give us, through the various bee-journals, the matured thoughts of his ripened mind.
>
> "Modest and unassuming in his manners, and confiding as a child in the honesty of the world, he today, instead of having reaped a fortune as the result of his valuable invention, is not worth a single dollar. But for all this, he stands before the world as one of Nature's noblemen, an honest man. He has fairly and fully earned the proud title that all bee-keepers, who know him, admit belongs to him, —the prince of apiarists; the Huber of America."

These terse remarks impressed me when I saw them, and, notwithstanding I had mislaid the copy in which I read them, the words seemed to grow upon me. In the silent hours of the night they appeared more vivid, and I could, from the casual first reading, almost repeat them verbatim.

A day or two ago I noticed in the papers that *at last* the genius of Columbus had been recognized, and in his native village a monument was to be erected to his memory. Again the words of Mr. Pond emblazoned themselves before my mind's eye.

To-day I read, "Mozart, who wanted bread, gets a stone. Vienna is building him a monument, to cost $50,000, which is much more than he received for the whole work of his life. He died in want, and his uncoffined corpse was thrust into a trench in the Potter's Field."

I determined then, as the words of Mr. Pond again admonished me, to delay no longer, but make at once my first attempt in bee literature; in fact, my first public communication of any kind.

The Rev. L. L. Langstroth is dead! What a calamity this would be! How many epitaphs would be written! GLEANINGS, and, in fact, all the bee journals, would be dressed in mourning; long editorials would adorn the pages of each—none more eloquent, perhaps, than from the pen of him who recently told the juveniles of the pride which, 50 years hence, the little boy who recently *saw* and *spoke* to

Mr. Langstroth would narrate the personal experience of that meeting.

At each and every meeting of bee-keepers' associations throughout the length and breadth of the land, methinks I can hear in solemn, heartfelt tones the eloquent rhetoric of the mourners who bewail the loss of their benefactor, their instructor, their friend. At once a thousand eager voices would proclaim, "Let not his body rest in an unknown, unmarked grave;" and presently a shaft would arise, "erected by the bee-keepers of America."

My friends, the Rev. L. L. Langstroth needs no more eloquent epitaph than his own "The Hive and the Honey-Bee." It will live longer, and be read more broadcast than all your fervid eloquence, your studied rhetoric, or your heartfelt grief. He needs no monument, to be seen, perhaps, a few hundred yards off; his modest monuments already adorn the premises of the thousands who to-day either earn their livelihood, in whole or in part, or derive pleasure and profit from the work of his brain.

"The Rev. L. L. Langstroth is dead!" *To-day* you think the loss would be great; how much more would it have been thirty or forty years ago, *before* he announced to you the only way to properly utilize the honey-bee? But, he still lives; "his health, impaired by early studies; able to do but little for himself, and not worth a single dollar." Mr. Pond's statement has never been denied, so I take it to be true.

Bee-men and bee-women everywhere, are we doing our duty as a grateful people? Editors of bee-journals, type-setters, pressmen, *all* in the printing-office! ask yourselves, "Would our paper be in existence, except for the hanging, sectional, movable-frame principle?" If so, should we not present to Mr. Langstroth, living, what he will not need when dead? Ought we not to see that his gray hairs descend to a peaceful grave, giving him the assurance that those near and dear to him will be spared from want, at least?

I do not write in his behalf as a mendicant; far be it from me to do so. Were he rich as the fabled Crœsus, it would be our duty to show, in some way, our thanks. He is poor — in moderate circumstances; make him easy. Help the cause in your papers, by every means, and give, besides, what your duty dictates. Proprietors and workmen in supply houses, would you be earning a livelihood as you now do, if Mr. Langstroth had not given you the movable-frame hive? Then give what your duty dictates. Queen-venders, where would your occupation be? Then give what duty dictates. Bee-keepers' associations, conventions, and the like, would you have mingled together for pleasant intercourse and instruction? Have you enjoyed yourselves? Have you learned any thing which will profit you? Do what duty dictates to you!

Bee-keepers, who have profited by the sale of bees, or have derived pleasure in raising bees and honey, can you give a pound or two for each hive that has assisted you these many years? Do you *owe* Mr. Langstroth one or two pounds of honey for each movable-frame hive you possess? If so, give it — give what duty dictates, and no more. I simply, as one of you, tell you what I deem to be your duty, and think Mr. Langstroth could not decline a spontaneous offer from his friends everywhere.

Mr. Editor, will you receive, not our subscriptions, but *our dues?* Will twenty cents for *each* hive, from *every* bee-keeper who owns a movable-frame hive, form a respectable sum? If not, what will? My dues are ready as soon as you consent to be treasurer of the fund.

S. C. BOYLSTON,
General Freight and Ticket Agent, C. & S. R'y Co.
Charleston, S. C., Sept. 4, 1884.

All I can say, friend B., is, I am ready with my twenty cents per hive; but I would suggest, instead of putting me in treasurer, the amounts be remitted directly to friend Langstroth himself. His address is L. L. Langstroth, Oxford, Butler Co., Ohio, and his son-in-law, Mr. Cowan, can easily have some printed cards of acknowledgment of the receipt of money, and these can be addressed by some member of the household, so as not to task the strength of our old friend in his present affliction. Perhaps it will be a good way to have the amount sent in, published in GLEANINGS month after month. We will cheerfully do our part in the matter, and other bee journals can act as they think proper. Our number of hives averages, perhaps, winter and summer, about 250. This will make our donation $50.00, which amount is ready to be handed over *every new-years' day.*

PATENTS.

SOME SUGGESTIONS FROM FRIEND HEDDON IN REGARD TO THE MATTER.

FRIEND ROOT:—Having been somewhat associated with a patent lawyer and solicitor for a term of years, my attention has been called in that direction. As might be expected, I have read your printed report and decision regarding your suit with Mr. Forncrook with much interest, as published in last issue. We all regret very much that so much time and money should be spent over this controversy and suit. It is the result of some one being in the wrong. It seems Mr. Matthews has decided that Mr. Forncrook is that person.

To the end that such controversies and expenses may be as few and far between as possible in the future, I will add my small mite in that direction, with your allowance of space, as it is a matter which vitally interests us all, and does not seem to be clearly understood by all bee-keepers.

Let us analyze the subject. Many think a patent-right a monopoly. Well, be it such; it has one saving feature, in the fact that it is given to the monopolist as a reward for intellectual labor—a labor which, while it gives the laborer a monopoly, is also a great blessing to community at large. Personally I can not say that I see any great advantage or justice in the patent-system. Notwithstanding, however, the majority of nearly all countries think the system a good one; and as a true American citizen it is my duty to fall in line, abiding by the will of that majority so far as my acts are concerned in the matter. I hold, further, that it is consistent for me to obtain a patent and enjoy its fruits, even while I do not believe in the system. Patriotism to what I consider just, should lead me to talk and vote against the system I consider wrong. But while said system is in vogue, and I am daily paying tribute to it, for me to refrain from taking advantage of it would amount to martyrdom, which should not be expected from any individual.

am in favor of discussing the wisdom of the patent-system. I am further in favor of all legal and honorable efforts to do away with the system and office; but while it is in power by the will of the majority, I am *not* in favor of any careless statements that may be construed into admonitions of recklessness and lawlessness, in cheerfully abiding by its edicts.

Let us give the system credit for the good within it. It has had much to do with blessing mankind by way of calling forth important and valuable discoveries. It has given support to men who were intellectual giants, and physically almost incompetent. It has been a source of revenue to the government. It has opposed another class of monopoly. It is a law in nature for which no man is responsible, that the more goods a man manufactures, the cheaper he can make them; a law which brings about capitalists and monopolists, allowing the rich man to get richer, clearing him from the competition of his poorer fellow-man. Now, if the poor man has a patent on the article of manufacture, that exclusive right to make it protects him until he can get ahead so as to compete with his more wealthy brother, thus preventing that unjust natural condition of industry, that the big fish shall eat the little ones.

I think, among no other class is the idea that a patent is a wrongful monopoly, a radical injury to all except the patentee, and said patentee a criminal, so prevalent as among bee-keepers. I have carefully watched the general result and effect of the existence of a patent upon numerous articles of manufacture, several in our own line, and in very many instances have I seen this exclusive right of manufacturing prove a great blessing to the consuming public. I will mention one well known to our brother bee-keepers. All have heard of Rev. L. L. Langstroth, also of his valuable inventions, and a vast majority of you have tasted the fruits thereof. Nearly all who have held correspondence with him, or made his personal acquaintance (of which I am one who has had those honors), have been strongly impressed, not only with his determined path in the line of exact justice, but his keen perception as to what constitutes justice.

Mr. Langstroth obtained a patent, and a valuable one it was. After 14 years' experience with it he applied for 7 years' extension, which was granted by the commissioner. The money received for rights was the means, and I think the only means, at his command for educating the people to the superiority of his system of honey-producing. I paid $10.00 for my individual right, only two years previous to the expiration of the patent; that $10.00 brought the agent to my place. It not only was the incentive to his coming, but alone made it possible for him to come. His coming blessed me hundreds of dollars.

The principle of a patent is applied to books under the head of copyright. Mr. Langstroth's valuable work on bee-keeping is copyrighted. Prof. Cook's valuable Manual is also copyrighted; and you, Bro. Root, told us plainly that the names of your subscribers were a secret; that you could not afford to sell them to us at the cost of arranging and printing them, with a margin added. You were quite right. They are an aggregation of your labor, extending through years, and you can not give them away and do justice to yourself and those dependent upon you. We do not ask you to. We do not wish you to. We are aware that you recognize the propriety and justice in a reward for merit and intellectual labor, in so much as you have sent out many dollars to different ones who have invented valuable devices. The only difference I can see between these acts of yours and the patent-system is, that in your case you are at both ends of the bargain, while with that of the patentee it takes two to make the bargain. The office assigns to him the privilege to fix the amount of reward for his intellectual labors. If all mankind had a clear perception of justice, and were honest enough to do that justice to all their fellowmen, no laws would be needed; but, alas! such is not the case; and until it is, we must have the expenses, trouble, and hatred growing out of enacting and enforcing said laws. Some persons have an honorary standard of inventors' rights. We have several supply dealers who do not, and will not make and sell the inventions of a brother so long as he is engaged in the manufacture and sale of them, except as they buy of him to sell again. Our sense of justice recognizes a moral quality about such men that leads us to deal with them, while the far-seeing are afraid to send their cash with their orders to parties who sit idly in the shade, and sleep the sleep of the sluggard, until some more industrious brother, by unceasing energy, wrenches from nature a valuable secret, and then hasten to divide the natural profits of that secret. So far as I know of patents upon implements in our line, I do not know of a single case where one cent is added to the price of the article because of the patent. So far as I have witnessed, the infringements are, in price and quality, just what I should expect would come from him who is determined to live upon the merits of others, and openly violate the laws of his country, in the hope of accruing a few illegal dollars. That the inventor of an article (whether he have it patented or not) should make the best job for the price, is to be expected. He entertains greater pride in the article and its success. No one understands all its bearings better than he. If he had it patented, knowing that all the reputation it gains must redound to his exclusive interest and honor, he is all the more anxious to advertise it by the best material and workmanship.

I want the readers of GLEANINGS to look at this question fairly. No matter what may or may not seem to be your *interest* in the matter, let your *principle* stand first, and do justice to all in thought, speech, and act. JAMES HEDDON.

Dowagiac, Mich., Sept. 6, 1884.

I heartily agree with you, friend H., in saying that it is desirable that such expensive controversies as the Forncrook suit may be avoided as far as possible; and to that end I took pains to have a personal talk with Mr. F., telling him exactly how it seemed to me, and getting his ideas as fully as possible in the same way. It was only after I found that nothing *could* be done in the way of settling without expensive litigation that I decided to go on. I am quite willing that a man should monopolize his own property; and even if he wants a great price for that which belongs to him, he has a right to it, if he can get it, for aught I know. I, too, want to be a law-abiding citizen, recognizing, of course, the purpose for which laws were framed, and endeavor in all things to carry out the spirit of our laws. Perhaps the state of affairs that we find in bee culture grows out of the fact that it is so rare that any valuable invention is the work of one bee-keeper. We are all more or less indebted to those who have gone before us, therefore it is a very difficult matter indeed for any inventor to say, "This is entirely my own invention." I, too, paid Mr. Langstroth for an individual right, and our bookkeeper has instructions to send him $25.00 a year so long as he is able to be benefited by it. I am very glad indeed to note the disposition you call attention to among bee-keepers, of forbearing to copy the works of each other, patent or no patent. The supply-dealer who would unhesitatingly copy something well known to be the property of another, without getting the privilege of doing so, by purchase or otherwise, would very likely lose more than he made, so strong is the disposition of our people to give honor to whom honor is due.

D. A. JONES IN HIS OWN HOME.

ERNEST'S VISIT, AND WHAT HE SAW.

IT will be remembered, that a short time ago Mr. Jones made us a visit with a view to gain what hints and information might be practical in his own supply business just developing. He was equally ready to give suggestions from his own experience; and the result was, both parties were profited by the exchange of ideas. In response to his pressing invitation to return the visit, I made my way northward with a similar object in view.

On my way thither I went to Niagara Falls. Of course, as might have been suspected, the scenery was grand and magnificent; my eye continued to feast upon the sight, but could not be filled. Regretfully taking leave of the scene, although painfully aware that my purse had been suddenly reduced in outward proportions, I started for Reaboro, where I soon arrived. After making a short visit here with Mr. Calvert, the father of the two young men in our employ, I made my way to Beeton, where we are told that our good friend D. A. Jones holds forth. As it was Saturday night, not much was done except to have one of those rare old-time bee-talks. On the following Monday I was shown into the office, which is under the direct supervision of Mr. Macpherson. The methods of doing business were fully explained, from the receipt of an order to date of shipment. Having been pretty well catechised in this department, I went to his hive-factory, a short distance away. I first took a look at his engine, one of the celebrated Corliss make. It is about 50 or 60 horse-power, and made on a new improved pattern.

In an adjoining building, temporarily put up, is his hive-factory. The machinery was the best that could be obtained, and was designed for his new factory, which he intends putting up soon. It is to be a brick building 60 by 250 ft. Surely our Canadian friends ought to be well supplied in every thing that pertains to the care and management of the honey-bee. We Yankees ought to rejoice over the prospect that our bee-keeping fraternity is to be enlarged by a host of friends across the line, under the good old banner, "God save the Queen."

In the afternoon, Mr. Jones kindly offered to take me around to his different apiaries. There are seven in all, situated at from three to nine miles from his home, and averaging from 150 to 175 colonies each. I examined, with Mr. J., perhaps 50 different hives at random, and, almost without exception, every one was a good strong colony. Now a word in regard to the appearance of the apiaries. Each yard has the soil removed and nicely leveled down with fine sand over the whole. This reminds me of youthful days, when, with heavy heart, it was my daily apportioned task to remove with hoe the grass and weeds that *would* grow around the entrances. The bees were sensitive, and I was afraid; but even now I am forced to admit that it makes a very pretty appearance, despite the extra trouble. Around each yard, Mr. Jones has a tight board fence. In one corner of each is a double-walled honey-house, designed primarily for wintering purposes. Leading from each house is a sub-earth ventilating-pipe, described in GLEANINGS some time ago.

We drove that afternoon over a circuit of 30 miles, nor was I slow to avail myself of the opportunity proffered, to press a set of questions upon him. As Mr. Jones is a man of large experience, and gifted with an unusual amount of good humor and fun, I felt myself well repaid for my trip.

That evening Mr. Jones invited me to attend the students' bee convention over which he presides. It meets once a week, and he there takes up the leading topics of apiculture. I might remark right here, that Mr. J. has from 20 to 30 students who pay no tuition, and, on the contrary, are allowed 10 cents per hour for services in the factory when there is work. The students are permitted to attend the regular apiarists through the different yards, and there witness and enter into the various manipulations of the bees. On going to the convention we enter into a room where upon a table we see every periodical and book treating of bees. At spare hours the students are requested to read the best books, and confirm what they read by actual experience and observation. Upon the walls are beautiful colored plates, showing the anatomy of the bees. The time having arrived for opening, Mr. J. takes his wonted seat, opens his mouth, and thereupon proceeds to talk. Before beginning, however, he picked up quite a variety of honey-plants which he had requested to be brought in. These he took up in turn, giving their names and their relative values as honey-producers. The plant was then passed around, thus securing perfect familiarity.

I for one enjoyed the convention, and hope to attend some time in the future. Next issue I will give an account of my trip in the islands of the Georgian Bay, where Mr. J. raises separate races of bees.

ERNEST R. ROOT.

Perhaps I might mention, that the above is as new to me as to most of you. It is true, I had talked with Ernest about his trip; but there were so many things, he didn't get time to tell me about the weekly bee convention until I just read it in the above. And so friend Jones is a teacher, with all his other duties and cares, and he has an enthusiastic and intelligent class of pupils, no doubt. What an example is here given for many of us! Why should we not have frequent meetings of this kind? This matter of honey-plants alone—what would please a crowd of boys better than chasing about the country, collecting, working up, and hunting out all these matters? And then their report once a week—what a lot of good might be accomplished by such meetings! May God bless Bro. Jones! and I think I can also add with honest sincerity, "May God save the Queen," and bless the efforts which our friends in Canada are making for the cause of apiculture.

HOW TO MAKE A CISTERN.

SOME FACTS AND CONSIDERATIONS.

IN the last issue of GLEANINGS (p. 600, "Water for Bees") you refer, incidentally, to your cistern. As I am just in the act of digging one (12 x 12), I should be glad to have some suggestions, if you can spare me the time to give them. Is your cistern constructed of brick, or do you cement on the clay? for I observe that your soil, like ours, is clay. The soil here is a heavy tenacious red clay, and many persons contend that it is entirely useless to go to the expense of making a brick wall when, as they contend, a perfectly tight and lasting cistern can be made by cementing directly on the clay. What do you say to this?

Is there any good work of recent issue, on the subject of cistern-making? and if so, where can I get a copy? B. J. BARBOUR.

Barboursville, Orange Co., Va., Sept. 7, 1884.

Friend B., since you suggest it, it seems to me there certainly ought to be a book published on cistern-making. Few things are of more importance to our people than pure water; and during these days of temperance agitation it seems to me it might prove a very important factor in the work; and we should be certain of one thing, too, that it would awaken no opposition. Nobody, if I am correct, would object to the idea of making pure water more convenient and plentiful. When our cistern was built I hunted over the agricultural papers, and talked with men who made it a business to build cisterns, and the result I give you.

A good cistern should be about the shape of an egg, with the small end downward. Have it large and deep. By going deep you get cold water—about as cold as a well; and by having it large you may enjoy the rare fun of telling all the neighbors during a drought to come and help themselves, without being alarmed about the supply running short. I shall have to give my wife the credit for always insisting on a large cistern; and I think that none of the cisterns she ever presided over were ever known to get dry.

Although a great many cisterns are plastered directly on to the clay, our mason told me he thought it was a very unwise proceeding; that although they might stand a great many years, there was a liability of trouble.

The way we made our filter was by having a solid wall of soft brick right through the middle. Mortar is put between the bricks, but none on their edges. They should be soft enough so that the water will soak through them about as fast as it comes down during a heavy rain. This partition goes clear down into the pointed bottom, and the pipe to which the pump is attached goes also pretty near the bottom. To prevent it drawing up filth and such small accumulations as in the course of time get into the filtered side, this pipe is turned upward at its lower end, forming a sort of hook, as it were. The pipe we use is heavy lead pipe, coated with tin both outside and in. This gives a pipe that the water never attacks, and yet the expense is but little more than lead pipe.

Now, the other side of the cistern, where the water pours in from the roof, must, of course, have an outlet. We had an outlet constructed and all finished when I picked up a scrap of an agricultural paper containing a new arrangement (at least new to me) for this outlet or overflow pipe. The idea was, to let the water out during a heavy rainfall, at the extreme bottom, instead of at the top. All that is necessary is to have this outlet something like a spout to a coffee-pot, only the spout is connected directly with the bottom. Ours was made of sewer-pipe, laid in cement. The result is, that when we have a tremendous rain, so as to fill the cistern, all the sediment is "scooted out" through this overflow-pipe, and your cistern never needs cleaning. Of course, the overflow-pipe should be sufficiently large to send a good heavy head of water through the cistern. During our heavy storms of spring and fall or winter, this overflow-pipe acts, and the cistern cleans itself. Of course, a large roof is desirable; and with such an outlet-pipe you want to turn the water from all your roofs right into the cistern. The oftener it gets washed out the better.

I am quite notional about the water I drink, and I am inclined to think that these notions are pretty correct indications of what nature wants. When I drink water from a well where surface water from decaying vegetable matter has soaked in it, it produces an unpleasant effect almost at once. Hard water, until I am accustomed to it, also makes me feel unpleasantly; but the water from our cistern, as it is now, leaves no bad taste in the mouth, and does not upset me in any way, even though I drink comparatively large quantities. The water from a good well is, I presume, about as good as any thing that can be desired; but unless it is a soft-water well (and such are not very common) it is unpleasant for washing and cooking purposes. When we take into consideration the doctors' bills that are often paid just because of impure water, it does not seem a piece of very great extravagance to build such a cistern as I have described, and finish it up by having a slate roof to your house. Just think for a moment of giving these poor little innocent ones that hang on our knees, asking plaintively, "Mamma, water;" just think of giving these water that gives them typhoid fever, kidney complaints, cholera infantum, and other diseases of like character. Huber is just now old enough to call for "wawa;" and after he has been out with his papa among the strawberries until he has got tired and thirsty, it is worth half the price of the cistern to see him smack his lips over it, and express his thanks and approval in every way he knows how. Now, then, if anybody knows of a book on cistern-making, let him stand up and speak.

In order to make this article a fitting one for a bee journal, I will just add, on a nice little pedestal right opposite the outside cistern pump, you fix a large-sized bell-glass, or glass jar inverted over a grooved board; and by keeping it full during all weather that bees can fly, teach them that there they may always find good pure water. This pedestal, while standing right in the sun, should be sheltered from prevailing winds; or you can have suitable pipes to carry the drips from the pump out to some sheltered spot, so that bees can have water whenever the pump is used.

PREMIUM ESSAY OF THE PRODUCTION OF COMB AND EXTRACTED HONEY.

Including the Management and Manipulation for One Year.

READ AT THE STATE FAIR AT COLUMBUS.

To be successful in producing honey, either comb or extracted, it will be necessary to have hives adapted to one of the standard brood-frames now in general use, such as the Langstroth, American, Gallup, or Quinby. They should also be constructed as to be conveniently adapted to the storing of both comb and extracted honey in best shape for market, and for the successful wintering of bees.

To successfully winter bees, it is necessary to have the hives contain prolific queens, plenty of working bees reared during the fall season, and from 30 to 40 pounds of good well-capped honey in each brood-chamber. It will also be necessary to use some kind of absorbent of moisture, placed on top of the brood-frames. Chaff, wood shavings, forest-leaves, and sawdust are all good absorbents. A bee-passage is generally made between the absorbing material and the top of the brood-frames. Bees should be disturbed as little as possible during the winter; about the only thing necessary is to occasionally remove the dead bees that may accumulate on the bottom-boards of the hives. Early in the spring the hives should all be examined, to ascertain whether they have queens and sufficient stores to supply them until they can gather new honey. If any are queenless they must be supplied with a fertile queen as soon as possible, otherwise they will be lost. If short in stores, they must be fed either honey or sugar syrup. The latter is preferred, as it is not so liable to induce robbing. Stimulative feeding may be resorted to to good advantage in locations where it is necessary to have strong colonies early in the season.

As soon as the bees commence gathering honey freely, the surplus-receptacles should be placed on the hives; if working for comb honey, the boxes or sections should have starters of thin comb foundation. Too much surplus room should not at first be given, but additions made thereto as required. As fast as the combs are nicely capped over they should be removed, and the space they occupied filled as before.

For extracted honey it is necessary to have an additional story placed on top of the brood-chamber. To induce the bees to commence work, draw a frame of freshly gathered and uncapped honey from below, which place with one or more empty combs or frames of comb foundation — according to the strength of the colony above, confining them to their allotted space with a movable division-board; add more frames as needed; when two or more of them are filled and mostly capped over they should be extracted, and then replaced. All surplus honey and receptacles should be removed from the hives at the close of the honey harvest.

SAMUEL D. RIEGEL.

DISABLED QUEENS.

DO BEES WORK OVER OLD COMBS INTO NEW?

FRIEND ROOT:—I have had some trouble with my bees this season, and now after all this bother they are coming out so good and strong that everybody is going crazy over them.

To one of the hives that killed one of your queens I gave a queen-cell; and when she had hatched, and was about three days old, I looked them over and found her, and there was a whitish substance attached to her extremity. I thought this nothing unusual at the time, and did not again trouble them for about a week; then on opening the hive I found queen-cells started with eggs in them, and here and there an egg scattered around on a couple of cards, and some cells had two in. Laying worker, thought I; then by careful search I found the queen, and in just the same fix as before, only the lump seemed to be larger than when first seen; so I caught her by the wings, and with the thumb and finger of the other hand I held her fast while my wife removed the deformity with a pin. It looked like propolis, but it seemed harder—more like some crystallized substance. It was a little to one side; and while she was undergoing the operation she would dart out her sting about as much to the other side. Well, after that I placed her on my hand, and she looked and acted all right, so I destroyed all the queen-cells, and gave the hive a card of new brood, and put her back. I looked in a couple of days later, and they had not started any more queen-cells, but she had gone to laying to beat time, and she proves to be a good one. What was the trouble, and did I do right?

Do not bees sometimes work over old comb? I see no mention made of such a fact, but I always find that the first new comb built in a hive transferred from old and new combs is speckled, and looks like bits of old comb worked over. The other day I noticed a bee at work on some bits of old comb sticking to pieces of the old bee-tree, and he would gnaw off the wax, and then work it up with his paws, something as a boy would make a snowball, and then rub it back on his hind legs, exactly the same as pollen; and when it was loaded it flew away. I could not say what was done with it.

Our bees are doing great work now on buckwheat. JOHN BARLOW.

Sac City, Iowa, Aug. 11, 1884.

From your description, friend B., I should say the whitish appendage was without doubt the drone organ, which had not been pulled away by the bees. Perhaps it adhered so strongly they could not remove it as they usually do. Very likely she would never have been able to lay if you had not performed the operation you mention. I presume, of course, the eggs she now lays are worker-eggs. Was it not more than three days after hatching, when you found her with this appendage?—Bees do work over old comb, and I have often seen a transferred colony build a comb as large as my hand, almost black, they having taken old black combs for material to build this new one. As they often use this material for lengthening out cells, it has seemed to me that fdn. made from dark combs is just as good for brood-combs as the yellow wax, in every respect, except in looks.

THOSE STRAWBERRIES.

FRIEND DOOLITTLE TELLS US HOW TO RAISE 841 BUSHELS TO THE ACRE.

IT was with much interest that I read what the editor had to say on pages 557, 558, and 559, regarding his enjoyment with the strawberry-plants; for nothing outside of bee culture ever gives me more comfort than the raising of strawberries; and as an invitation is given at the close of the article for all to tell about potted strawberries, I thought I would say a few words regarding both those which are potted, and those which are not.

There is nearly as great a diversity of opinion regarding the best way to raise strawberries as there is regarding bee culture; and from my own experience, the potting of strawberry-plants for my own use is one of the most expensive ways of raising them. Were I desirous of shipping plants in July, August, and September, then potted plants would be an advantage, as they would be sure to grow, even in the hands of the novice; but a bed of potted plants will cost twice what a bed will when the plants are set in the spring, besides not producing one-half the berries the spring-set bed will the next season. It is a great deal of work to water and care for potted plants, as it is generally dry weather at time of potting, a view of which friend Root has given us, while the spring-set plants need no care after being once set, save cultivation and keeping the runners cut, which thing must be done for the potted plants. Again, there is danger of plants rooted in pots becoming "pot bound," if left too long before setting out; and I fear if friend Root waits for the digging of those potatoes, and the fitting of the ground the way he speaks of, he will find that his plants are stunted, from the pots becoming so full of roots that the roots have, to a certain extent, lost their vitality. From 15 to 20 days is the right length of time which should elapse between the potting of the plants and setting them in the beds. If the plants are left longer than this in the pots they are injured more or less, according to the length of the delay. When plants are left longer than 20 days in the pots it is always best to mash the earth and roots at the bottom of the ball, after turning out the plants, when the roots at the bottom can be straightened out in the moist fresh soil, which will help to overcome the check they have received from being left too long in the pots. But, as I have said before, I prefer setting the plants in the spring to any other way, after thoroughly trying all the plans I have read of for six or more years. I proceed as follows:

As early as the ground can be worked, the plot of ground designed for the strawberry-bed is thoroughly pulverized and enriched, to the depth of from 8 to 12 inches, according to the depth of the soil, when it is ready for the plants, which can be bought, or gotten out of the rye stubble, as friend Root did his. If those in the rye stubble, or old neglected bed, are the kind you wish, get them there by all means, for they are just as good as those from any source. If we wish new kinds, of course we must buy them. Having my plants dug or bought, I proceed to set them three feet apart in the row, thus saving two-thirds the plants which would be used should I set them only one foot apart in the row, as most advise. If I do not wish to cultivate vegetables between the rows of strawberries, I set the rows but two feet apart; but as most of us prefer to get all we can from our land, I generally grow a crop of carrots, beets, beans, or onions, between the rows, in which case I have the strawberry rows three feet apart. After setting, the ground is kept mellow by hoeing; and as soon as the runners form little plants, which they will do in June, they are brought around in the row, and held in place by a little stone (the same as they are held in the pots), so that each plant is six inches apart in the row, thus giving us five new plants between the old ones set out in the spring. When the rows are thus filled, the runners are kept clipped off during the rest of the season, thus causing the plants to form monstrous stools, or plants, as all the plants help each other through the runners, in the way friend Root tells us his grapevines do; while in the case of potted plants, each one must go alone. Besides, the roots of these plants branch out and feed upon the soil in every direction as soon as they begin to grow instead of being cramped up in a pot; hence they grow right along without interruption. I have counted as high as 43 fruit-stems in the spring on such plants, while 21 was the best I ever found on a potted plant. Plants treated as above will yield almost fabulous amounts; as, for instance, in 1880 I picked from the Crescent-Seedling variety, with rows two feet apart, after the rate of 27,016 quarts, or 841 bushels to the acre; while the Windsor Chief, Wilson, Miner's Prolific, and Cumberland Triumph, did nearly as well.

I could write much more on this interesting subject; but my time is limited, and I have already told you enough, together with what friend Root told you a month ago, so that all may enjoy one of the best fruits God ever gave to man, if they will only take a little trouble to secure them.

G. M. DOOLITTLE.

Borodino, N. Y., Sept. 1, 1884.

Many thanks, friend D. I thought of you several times when working at the strawberries, and it did occur to me that you were somewhat in the strawberry business. Now, I do not know but that all you say is true in regard to the advantage of layered over potted plants generally. But, just look here, old friend; bee-keepers, as a rule, have not much leisure time in the spring; whereas I can have a good playspell night and morning now, almost every day. Another thing, I do not want to wait until next spring; I have got the fever now, and now is the time to enjoy it. Again, Peter Henderson's new process embraces making a great growth in the fall, which, he says, could not be accomplished (or, at least, not without much expense), by the use of layers. You see, we use compost for filling our three-inch pots that is somewhat expensive, and the plants are given a big start while potatoes are ripening. Even as you state it (and I am very much obliged indeed for your caution, for, to tell the truth, I have just discovered since reading your article whence some of my troubles come), we make a gain of about 20 days; and then when the plants are put on the potato ground, they are ready to push right along, without making any stop at all, and put out runners in abundance during the fall, which is just what ours are doing now. This potato ground, you know, is underdrained and subsoiled, and made about as rich as old manure will make it. Under this stimulus, before freezing weather we expect to have plants pretty nearly equal to what yours would be by next June; and then we have all the spring months to push them still. However, you may be a good deal in the right; and to test the matter I have 1000 layered plants and 1000 potted plants, both started on the most approved principles. If I understand you, it seems to me your point is rather between fall and spring planting, instead of between potted and layered plants. By the way, I shall be doing no harm if I call attention to the remarks on strawberry culture in friend D.'s circular, which he publishes annually.

And here is something from another friend about strawberries:

STRAWBERRIES FOR CHILDREN.

Bro. Root has not had all the fun raising strawberries this summer, for we have had a nice time raising them in another way. In the spring we bought six plants each, of eight or ten different kinds, and put them in rows in our garden. The ground was made rich, sand scattered on, and we can pretty nearly *see* them grow. The rows were too far apart at first, but now they are "just crowding," as our little boy says. I guess we shall have to put a board fence six inches high between them. But the most fun will be next spring, when we can have Manchesters for breakfast, Windsor Chiefs for dinner, Big Bobs for supper, and other kinds next day. So when they are well *tested* we can plant out a big bed of the best kinds, and we shall have strawberries and plants both to give to the boys and girls when they come to see us. Now, who will try this way? But, don't forget to feed them well, for they will eat what a hog wouldn't touch. Just clean out the pig-pen, brush out the chicken-house, sweep up the yard, pull the weeds in the garden, put them in a pile, and throw the soapsuds over them till they rot; then when all is mixed together you will have a fertilizer equal to the best *perfumed bone dust;* and you don't know how much nicer the whole place will look for feeding the strawberries that way, nor how much better you will feel if you have plenty of strawberries to make you grow, instead of fat pork, and other greasy food. **MRS. M. A. SHEPHERD.**

Many thanks, my good friend Mrs. S., and especially do I commend the idea of gathering and utilizing all filth and rubbish about the premises. Studying the habits of the strawberries, and learning just what they like, and how to feed them so as to make them thrive, has been to me a wonderful pleasure.

WHAT IS THE TROUBLE?

TROUBLES IN INTRODUCING.

I AM puzzled. I raised a fine queen this summer, and left her in the nucleus hive until she began to lay; then I took a black queen out. The next day I caged the Italian queen, left her in the cage till next day, and let her out. The bees balled her. I caged her again the next day, and let her out again. The bees balled her again, so I continued this way for six days. The next day I told my wife I would try another plan, so I got the smoker and put the queen at the entrance of the hive. The bees made at her. I smoked them for some time, then left the hive. In about six days I opened the hive, and saw from one to four eggs in a cell, so I began to look for a fertile worker, and soon found the beautiful Italian queen that I raised. There are several queen-cells in the hive.

Glenola, N. C., Sept. 4, 1884. **J. W. DAVIS.**

Making bees receive a queen when they seem determined not to, by use of smoke, is a common practice, friend D.; in fact, queens may be introduced at once, if you stay by the colony, and watch them by smoking them as often as they commence attacking her, and I believe that, in the course of a few hours, they may generally be made to let the queen alone. The process is, however, somewhat risky, and may take a great deal of time. It is a little singular, that the queen should lay several eggs in a cell, if she is in a full colony. I should expect her to come out all right eventually, however; that is, if she laid all right in a nucleus. They perhaps persist in raising queen-cells because they are not quite reconciled to her; and perhaps she has laid in the way you state, because of their persecution. I have known a colony of hybrids to worry a queen for over a week after they had apparently accepted her, and then destroy her as soon as they had time to hatch out a queen more to their own liking.

PYRETHRUM FOR ANTS AND OTHER INSECTS.

A LITTLE MORE INFORMATION IS WANTED ON THE SUBJECT.

AFTER sending you my last article, about the use of pyrethrum, I conceived the idea of making small blocks, covered with pyrethrum, to be placed under any thing from which it is desirable to keep ants away. Having used up my old lot of pyrethrum, I went to the store where I obtained it, and asked for some more. The grocer told me he did not keep the old kind any more, but had something new, called "buhach," which was more effective, and cost 35 cts. more per pound than pyrethrum. I bought some of that. Now, the two articles look and act exactly alike, as far as I can see.

In a last-year's number of *Pacific Rural Press* is an advertisement of buhach which I send you. As you will see, Prof. Cook is in several places quoted as recommending the article. Will Prof. Cook kindly tell us what difference, if any, there is between pyrethrum and buhach, and why there should be such a difference in the price?

Well, I got out, with my circular saws, a lot of ⅞-inch cubes of pine lumber, covered them first with dextrine, then with buhach. After drying them for a day or two I placed them under different articles in the honey-room. If they proved a success, I thought I might earn a little by manufacturing them for sale. But while in most cases they kept the ants away, in several instances the ants traveled right over them. The attraction of the honey was greater than the objection to the powder. The difficulty seems to be in getting enough powder to adhere to the blocks, to prevent the ants from getting a foothold. Placing a small heap of the powder round each block will keep them away, but ashes will do the same. My object in view was to have it so that things could be moved about, and not have to be bothered with the loose powder. This seems, however, to be the only sure way of accomplishing the object.

I tried some of the blocks saturated with coal oil, placing them under my wheelbarrow; but as soon as the blocks got dry, the anst went right over them.

In regard to pyrethrum, I am told it will lost its strength in couse of time. Also that it will give some people the headache, if placed on or near the pillow. It is used considrably here to kill bedbugs, scattering it between the bed clothes and round the woodwork of bedsteads.

WM. MUTH-RASMUSSEN.

Independence, Cal., Aug. 30, 1884.

Friend M., the advertisement you inclose us certainly contains a pretty heavy testimonial from Prof. Cook. But the most important matter now before us is, did Prof. Cook really write what is quoted, with the understanding that it was with reference to this buhach you refer to? Will friend Cook enlighten us a little? I have this summer made quite a number of experiments with various insect powders, and my impression was, that pyrethrum and other similar substances killed the insects by the little cloud of dust they give out. Such being the case, it would have no effect at all when cemented on to your blocks. But we are stumbled again, for the testimonials declare it is equalyl effective when dissolved in alcohol or water, and that it can then be used as a substitute for Paris green. I confess I can not quite understand this, for Paris green is a virulent poisen to man as well as insects, while pyrethrum, if I am correctly informed, is perfectly harmless to plants and animals, and is noxious only to the insect world. Friend Cook, will you please tell us something about ants and pyrethrum? and do you really consider buhach superior to pyrethrum?

FRIEND POND'S REPORT.

THE DEMAND FOR BEES, HONEY, ETC.

FRIEND ROOT:—This has been a most peculiar season. My colonies were all strong during fruit-bloom, and gave me a good yield of surplus from that source. The prospects for a good yield from white clover were never finer, but, from some cause or other, hardly enough was obtained to keep the brood-chamber supplied. I never saw brood-rearing kept up, however, to such an extent in any season—owing, I suppose, to the fact that there was a small daily yield of nectar from the flowers, but not enough at any one time to crowd the queen at all. The colony mentioned on page 521, under the heading of "A Strange Whim," has kept up the same kind of business the whole season, and has attempted to swarm out with the same results no less than six times. I have already drawn on it three times for nuclei, taking four frames of brood each time, now stocked up to full colonies, and at last I have divided it, and got two more strong colonies, and the prospects are that the half containing the queen can be divided again in the course of a week. Owing to the fact that the yield of honey was so small, and brood-rearing was carried on to such an excess, I have devoted the latter part of the season to raising bees, and judge that I can make that branch of business fully as profitable, and far more interesting, and with less trouble to myself, than raising honey. I could have sold, last spring, 20 colonies if I had had them to spare, and I presume the demand will be equally great next spring.

Notwithstanding the great demand for bees, and the immense quantities of honey that are raised from year to year, the amount largely increasing each year, I do not see any reason to think that overstocking or overproduction is a factor that need trouble us in this generation. At any rate, I don't see that the price of nice honey is any lower than years ago, and no other honey will bring a good price under any circumstances. I can sell all the honey I can produce, right in my own dooryard, and at remunerative prices, and could do so if my yield were ten times as great. Pure honey will always sell, all that is needed being to establish its reputation—an easy enough matter to be done, by any honest man.

J. E. POND, JR.

Foxboro', Norfolk Co., Mass., Aug. 5, 1884.

EXUDATION.

Texas Leading the Van in 1884.

LICE PRODUCING HONEY, ALL "BOSH."

JUST after the peach-tree went out of bloom, we had a liquid exude from the young leaves at the bud, which attracted the attention of the bees a little, for about 10 days. Don't think what they procured hurt them, or did any good either.

BARLEY.

This is a valuable crop some seasons. While it was in bloom, bees were on the stalk several days, lapping around the stem where the blades come off. This comes in good play, just after fruit-bloom.

WALNUT.

This is a well-known tree. But never before, to my knowledge, was it ever known to produce honey. There is not enough of it close to our apiary to learn of its quality. I learn that 20 miles west of us, there has been a splendid flow. This nectar exudes from the edge of the leaf. It hangs in large drops from the leaf.

SUNFLOWER (COMMON).

This attracts the attention of the little yellow-banded fellows some. They crawl up and down the stalk, and lap a little here and there.

PIN-OAK.

The acorn on this tree has exuded something that brought the bees among its foliage. This didn't last long.

SHIN-OAK.

This is a species of what we call "basket-oak." We make cotton and feed baskets of it. These baskets are made large enough to hold 100 or 200 lbs. of seed-cotton. Some pickers use them and some do not. They have a large sack strapped across one shoulder that they gather it in. It is then put in a basket and transported to where it should go.

I have digressed a little from the bee subject. Shin-oak grows a kind of fungus on the small limbs near the end; that is, from one to two inches up and down or along the limb. This substance exudes a nice transparent juice, which I think is of a good flavor. It is so plentiful that I could lick it up, easily. This as well as the pin-oak acorn is a phenomenon to us. We have never seen bees on them before.

LIVE-OAK.

Southern bee-keepers know the value of this "long-lived" tree, as being the best of firewood, as well as one of the best honey-producing trees in the South, though it does not produce honey every year; but it will, during a dry year as well as wet; and when it does, it is nice.

The honey comes from balls or nut-galls. I find, early in the morning, enough on one ball to make quite a respectable load for an old "vet," whose wings are tattered or torn. Honey is liable to come from these balls up to October. This is such a bountiful year for exudation that I look for a fine crop of honey from the cotton-plant.

This year has been a good one with us in Texas. I think Texas will get her name in the "pot" after awhile. What is the matter with B. F. Carroll? Is he sick? We have taken 7000 lbs. Our bees had a shabby start in the spring, and were debarred from honey-gathering by being used for queen-rearing up till now. A good rain the first of July would have given us a ton of honey from sumac and buckbush (*Symphoricarpus*). Our last rain, as near as I remember, fell in May.

APHIDES.

Friends, you talk about *lice* spraying honey over the leaves. I beg to put in a thought that you are all wrong. Of all the above, I have seen lice on the sunflowers only. They were there for the sweets, just as bees, wasps, ants, and all other insects are. I think it all bosh to talk about insects producing honey. I have picked cotton many a time when the leaves were sticky, from the top of the stalk to the bottom. My hands would get so sticky late in the day by touching the leaves that I couldn't handle the cotton well, and I never *did* see lice on it. I think it an unscientific, chimerical, vapor speculation. It has no foundation in *fact* whatever, and, I am afraid, is somewhat peculiar to those who advocate it. The idea that an insect can produce honey is an absurd idea, and is about as wise as some of our bee-neighbors, who say the bees *make* the honey, and don't gather it from any thing, but gather bee-bread. Others say they don't get it from any thing but honey-dew that falls from heaven, and get bee-feed from flowers. This may seem harsh, but it is in due respect to all. J. W. Guyton.

Waco, Texas, Aug. 28, 1884.

P. S.—I have sold my interest in Guyton Bros.' apiary to my brother Isaac. I think of locating at Lampassas Springs. J. W. G.

Friend G., you are doubtless somewhat in the right, but I think you are a little uncharitable in regard to the aphis part of it. It may be that the honey sometimes exudes from the plant after it has been punctured by the aphides; but that the aphides, after eating the foliage of the plant, or the bark, do also exude or reject a sweet substance, is abundantly proven. Very likely what we call honey-dew comes from a variety of sources; and, please let us investigate it as fully as we can. But, even though our investigations do not harmonize with those of some other brother, please let us be a little slow in deciding that he has made a mistake, shall we not?

THE INSECTIVOROUS TOAD.

A PLEA FOR WHAT WE HAVE CONSIDERED A COMMON ENEMY.

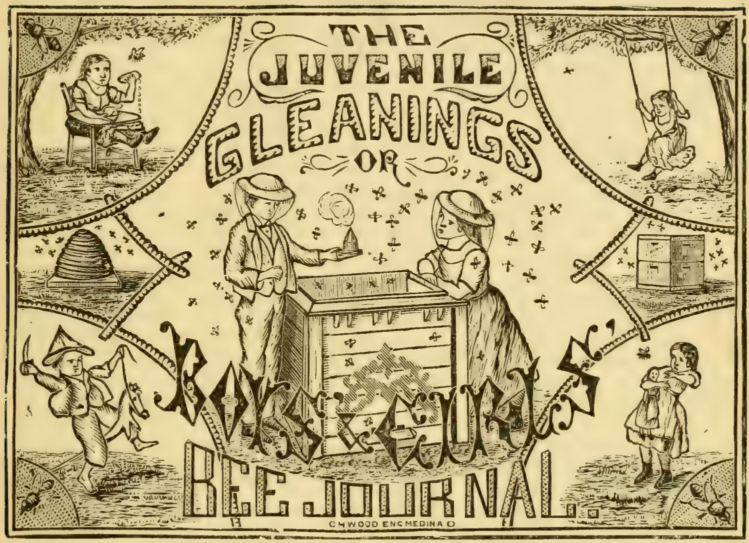
MANY apiarists look upon toads as their enemies, because they sometimes sit at the hive entrances, and gather the honey-laden bees into their capacious stomachs, appearing to be, like that celebrated character of Dickens, "always ready for more." That they do this occasionally, no one can dispute; but that because of this they should be persecuted and killed, is and ought to be disputed. Hence I have thought that the results of an examination of toads' stomachs, which I recently made, would be of interest to the readers of Gleanings.

The method of the examination was this: The specimens were killed by means of chloroform, and the contents of their stomachs removed to a watch-glass containing alcohol; the recognizable insects were then separated, and their percentage estimated; after this a portion consisting of broken insects and other particles, remained to be placed on the glass slip, and viewed through a microscope, and the percentage of the insect particles carefully estimated. Although much has been written about the insects eaten by toads, so far as can be ascertained no attempt has been made to discover whether or not the insects eaten were beneficial or injurious to agriculture.

Seven specimens were examined, all taken in July. Insects formed 81 per cent of their food; spiders and "thousand-legged" worms 11 per cent, and vegetable matter, consisting of dry grass-blades, pieces of decayed wood, etcetera, 5 per cent. This latter was probably largely, if not wholly, accidentally introduced. Ants formed 23 per cent, the largest percentage of any element of their food. Beetles of the predaceous family, *carabidæ*, and injurious cut-worms and other moth larvæ, were the next most numerous insects, the percentage of each being fourteen; but it is a noteworthy fact, the former (*carabidæ*) were almost wholly of the species which Prof. Forbes has found to be either wholly or partially vegetable feeding. Besides this family of beetles there were present in some cases the elater, or click beetles, which lay the eggs which produce the pernicious root-eating wire-worms. There were also a great many beetles of the strawberry-crown girdler, which has recently become so numerous in this vicinity. These beetles formed 7 per cent of the whole food. Another element largely present was the larvæ of grasshoppers and crickets, which formed 6 per cent of the whole, the most common species being the red-legged grasshoppers. There were also 2 per cent of spiders present.

Thus we see that toads, under ordinary circumstances, are of immense benefit. Should they be destroyed, doubtless many noxious insects would increase to such an extent as to do great injury to many farm crops, and to many honey-bearing plants. Hence, my bee-keeping friend, if you see one of these jeweled batrachians consigning your bees to an untimely grave, lift him up by the nape of his handsome (?) neck, tenderly carry him beyond the precincts of the apiary, and deposit him in your berry-patch or onion-bed. Have no fear of warts, for there is no danger in handling a toad. If toads continue to be troublesome, erect a low board fence around your apiary, to exclude them. Clarence M. Weed.

Lansing, Mich., Aug. 6, 1884.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

WHO IS MY NEIGHBOR?—LUKE 10:29.

I HAVE just returned from the Ohio State Fair, and I need hardly tell you that I met there a great number of neighbors; and the pleasantest part of it all was, they seemed to be so neighborly to each other. And then, again, what a wonderful open book are the agricultural fairs and conventions and expositions, that are getting to be so prominent a feature the world over! What wonderful creatures we are! much alike, yet different. Now, I love bees, and I love machinery; and I love strawberries too. It seems to me I have said something about it before. Well, Neighbor H. likes these things too, although I can not awaken much enthusiasm in him on the strawberry question. He just says, "I suppose so," or "Like enough," and then turns around to look at something else. Now, he wanted to see the cattle; but I didn't care a cent for the cattle; or, at least, I thought I didn't. But I concluded I would go around with him, as he had been around with me so much, and so we went through the cattle-stalls. I do like to see Jerseys, come to think of it, for we have got a little Jersey cow of our own. It is that Jersey calf I traded bees for, and now she has got a big calf of her own.

Well, after we looked at the Jerseys, Neighbor H. pointed out the Holsteins, the Durhams, the Devons, and ever so many more I can not remember now. At one stall, H. was admiring a nice-looking fat slick calf. I liked the calf too, because he was pretty and looked happy. Then a nice-looking man came forward, and, said he, "That calf was just six months old day before yesterday." And those standing around made a great wonderment. But that was nothing strange to me, because I did not know what a calf ought to be at six months old. If he had said, "That strawberry-plant was set in the pot only ten days ago," then I should have been all attention.

When we had admired and fondled the calf, the owner gave a slap on a great big animal that stood next stall, saying with complacency and pride, "And here is his father. He weighs so and so." I innocently ventured the remark, that the calf's papa had probably had extra treatment to make him look so slick and plump. "No, sir," said the man; "you would hardly believe it when I tell you that his daily feed has been only three pints of meal three times a day; but we found that was too much for him, and we changed it to only twice a day." May be I have not got it right, but that was the sum and substance. The point is, that this man was all Holstein; in fact, he had Holstein at his fingers' ends. The man himself was bright and intelligent, and one could at a glance see that he was master of his business. Now, I am sure that he has a nice and beautiful farm, with fine barns, and that he rejoices in peace and plenty—the reward God gives him for being faithful with few things—his herd of Holsteins perhaps. I admired the calf, the calf's papa, and the owner of them all.

Pretty soon afterward a man stood by a self-binding reaper. It was much simpler than any I had seen in former years; in fact, it stood down so near the ground, and was so quiet, that one would hardly think it capable of doing the business, were it not that it *was* doing it. The man stood near it, talking incessantly, first to one and then to the other. While the machine gathered up the straw, it bundled it up with a kind of motherly shake, such as the women give a pillow when they slip it in a case. Then with a sort of energetic jerk and hug, the straw was neatly tied up in a bundle, the string nipped off, and another arm that I had not noticed before, with a peculiar-looking long-pointed thumb grabbed the bundle and pitched it out of the way, and then said thumb remained sticking up in the air in an odd sort of a way, as if to say, "Gentlemen, what do you think of that? bring on your grain." After the bundles were tied up, a boy took them around to the place of starting, cut the band off, and let the machine tie it up again. The boy looked rather tired and sleepy, evidently wondering what could possess folks to make such a fuss about that thing that kept doing so hour after hour, when it really could not help doing it, even if it wanted to. But, the man's whole soul was bound up in the machine, and he seemed never to tire. All those complicated wheels and springs and steel fingers were the work of his brain, and the inanimate steel was trained to obey his will, and he, too, had it under his finger. He was the master, and the machine was the obedient servant. I thought likely he had a beautiful home—a nice factory, and that he was happy in fulfilling the end for which God created him.

A little later, and Neighbor H. suggested that we should look at the Clydesdales. I did not know what Clydesdales were, but thought probably they would be interesting. We looked into a stall where a man was sitting down with one eye shut, chewing a straw. Right back of him was a beautiful horse—beautiful in his wonderful strength, for his ponderous legs reminded one of a baby-elephant; his wonderful sinews and massive strength reminded me of some of our great iron structures that are made expressly to do massive work. I did not know there were such horses in the world. But I could readily imagine, that if some one had given an order to a master mechanic to make a horse that could draw a load four times as large as horses usually do, this master mechanic might have furnished something like the horse before us; that is, if his business was making horses. Well, true enough, men do nowadays make horses; that is, they get up horses to order. It takes a good many years, perhaps, and may be they have to hunt all over the world, as D. A. Jones did after bees, to find the material to work with; but they can do it. While I was pondering on this ponderous animal I looked over my shoulder, and a little slim cat-like colt (it seemed, too, to look like an old horse) came by panting. Somebody said she had just run four miles. Well, if the other was built to draw heavy loads, this one was built for speed. Why, she seemed as if she might almost fly; and her feet were so little, one could hardly believe she belonged to the same race of animals. And so it was all the way through. Each man had his forte, and they were gathered there together to give and impart knowledge, and to see what each one had accomplished.

After leaving the fair I enjoyed immensely a visit to the grounds of our State Agricultural College. Mr. W. J. Green, who is a young man from our own county, and whom I knew well, showed me their plat of sixty different kinds of strawberries, and we talked strawberries until Neighbor H. said he could not stand it any longer. You know how much enjoyment I have had lately in seeing plants grow. Well, a rare treat awaited me at the greenhouse on the college grounds. For the first time in my life I saw a greenhouse that was beautiful, even during the hot days of September. It was a new structure that was just put up, all glass and iron, and the gardener, Mr. C. A. Roth, was an enthusiast in producing beautiful effects by combinations of plants, and especially bright foliage. He did not stop at the foliage of the plants, but the ground they grew in was made to contribute also. Some of the plants grew in bright clean sand; others had the surface of the ground made almost black by some old rotten corncobs broken up fine. Then every thing was so beautiful and clean and neat. If a little soil was dropped on the floor, it was brushed up at once. Even the lurking-places under the bench were shut by wire cloth, so that nothing met the eye of the most fastidious visitor, to mar the scene of beauty spread out before him.

I did not know before that there was a spot on the face of the earth that so completely embodied my ideas of beauty and happiness as that greenhouse. Why, I'd give a thousand dollars to have just a little one like it on our grounds. But, alas! it would not stay so without the presiding genius to keep it there. This man had it all under his thumb; the bright little plants were under his thumb, and jumped, as it were, and delighted in doing his bidding. He was happy, and the plants were happy. Did you never know, dear reader, that plants enjoy life? Just study the weeds in your garden, and see how eager they are for a chance to grow. See what frantic efforts they will make to hold on to life, and how they smile their thanks when you minister to their wants. May be you will smile at my talking in this way about weeds. Just hold on a bit. In front of the greenhouse was an oblong or oval ribbon bed, made of plants of variegated foliage. In the center was a plant that looked like glowing coals of fire at a distance, or like a gorgeous sunset. Surrounding it was a band of dark crimson or puple. I do not know colors very well, but I get happy when they are combined nicely. Well, this spot would fill one with pleasure if he chanced to catch a glimpse of it almost half a mile away, and he would wonder at first what it was he was feeling happy about. And what do you suppose human brains made it out of? Why, the weeds I was talking about—simply weeds, and nothing more; just our common homely catnip. Some gardener found that catnip has sometimes foliage with differently tinted leaves from what is usual; and by selecting seeds from these tinted-leaved plants he coaxed it in that direction. He taught it tricks, as it were, just as I teach Huber tricks. Just a few days ago, after Huber finished his dinner, he commenced pulling me to go outdoors and see the strawberries. Babylike, he had got his fingers greasy in eating, and I told him he must have his hands washed first. Well, what do you think? Next day, as soon as dinner was over, he put up his soft little paddies, and teased to have them washed.

"Why, bless the dear boy," said I, "he is already learning habits of neatness, so that he wants his little fingers clean before he goes out. Just look and see, mamma, if you don't believe it."

I held the wash-basin down for him while he washed those mischievous little soft fingers, and then gave him the towel to wipe them on, and he was ready to go and see how the strawberries had grown since a few hours before. The next day he more vehemently insisted on having his hands washed, and it was only when he began to demand to have them washed on every slight occasion, whether they were dirty or not, that it occurred to me he hadn't any taste for neatness at all. He had simply got it into his head that a part of the programme to get out into the open air was washed hands. It was a trick of his. Well, now, dear reader, plants have tricks, and they just delight in being taught tricks. This old, sober, homely, sedate catnip caught at the idea at once, of putting on many-colored hues, outrivaling those of autumn leaves, just for the privilege of having a nice place in the garden, and of being watered often. It puts on these colors exactly as Huber demanded to have his hands washed; and it has succeeded so well that almost every rich man in Columbus, and, for aught I know, lots of poor ones, not only in Columbus, but the world over, have given the catnip a nice place in the front yard, to revel in the rich soil and abundance of water which it loves so well. Now, I have not got through yet. I suppose you are all well aware that these different varieties of variegated plants are now multiplied with wondrous rapidity by slips and cuttings and layers. This deft gardener, in a little bit of pleasantry, asked me what I should think of a man who could take the leaf of a plant and tear it all into little bits, and then plant those little bits of leaves and make them grow into *bona-fide* plants themselves. I told him I should think he was possessed of witchcraft, or something akin to it. With an odd twinkle in his eye he turned around and raised a newspaper from a bit of pure sand. Little bits of leaves of many bright colors stuck out of the sand. He took one in his fingers, perhaps the size of a half-dollar, and, drawing it out, displayed a bunch of fibrous roots nearly as large as my hand. Then he did the same with others, and so on, until my astonishment knew no bounds.

"But, you have shown me the roots, and most beautiful roots they are, my friend; now where is the stalk?"

He held it up close, and, sure enough, buds were starting from those bits of leaves. And then we looked at plants in different stages, not grown from seed, but from a bit of leaf. When he found a leaf that pleased him he pulled it off, or a bit of it, may be, and, presto! a great bed of plants came in a few days from that bit of leaf. I think he said they would root in five days. Clean sand, plenty of water, no guano or fertilizer of any kind.

"But, my friend, how large is the family of plants that can be thus multiplied?"

"I do not know. I think we may learn to multiply all vegetable creation, possibly, in this way," and his answer has been ringing in my ears. Not only strawberries, but honey-plants and rare flowers may be eventually propagated thus.

Do you want to know whether our old friend the catnip still bears honey, after being put through all these tricks? I can not tell, but I rather think it does not blossom much if any. I know he told me it had become a greenhouse plant, or, rather, in that line, by being worked over. I brought some of the plants home, and our gardener is now putting them in the children's flower-bed; and when you come to visit the Home of the Honey-Bees I am going to try to please you with glimpses of beauty such as they showed me on the college grounds.

One thing I appreciate at the agricultural colleges is, that they have no secrets. It is their business to impart information as well as plants and seeds, and this they do faithfully. Would you not, my friends, young and old, love to learn how to handle both animal and vegetable life in the way I have been outlining? Well, just roll up your sleeves, and go to work. The field is open before you. It is an open door, and the promise stands written over it, "He that is faithful over few things shall be many ruler over many things."

PAYING OFF THE MORTGAGE.

A STORY FOR GIRLS.

"Of course, I'll tell you about Ruth; just wait till I get another ball of yarn; this one is almost gone." And in a minute or two Mrs. Morse came bustling back, and, seating herself in her low rocker, asked, "Where shall I begin?"

"Oh! begin at the beginning, and go through to the end," I begged.

"Then I shall have to begin with the night when Ruth came home with Polly, to stay all night.

"That was five years ago last December. I remember it well, because all the schools around here had to be closed on account of the measles. Jordon was teaching the Elm-Tree school that winter, and Polly was going to school to him. It was not our district, but Polly wanted to go to school to her father, and the directors let her. It is two miles from here and they walked there and back every day. Ruth lived with her stepmother over the creek at the other side of the district; they had lived there only a month or two, and I had never seen them. Ruth was thirteen years old; but such a little thing! she did not look to be more than ten, and so bright! I don't think a night passed but Jordon and Polly had something say to about Ruth Webb. One time it would be a piece she had spoken; another, the way she had solved a problem in arithmetic; or else she had spelled the school down. She was three years younger than Polly, but they were the closest of friends. All the big girls treated Ruth well. Polly said it was because they wanted her to work their examples for them; but I know it was because Ruth was a lady—naturally and instinctively a lady. So that evening, when Polly brought her in, and introduced her to me, she bowed low, and then, reaching out her hand, said, 'How do you do, Mrs. Morse? I hope you are well.' I told her I was well, and asked after her health; she said she wasn't very well—that her head ached; and then we went on to talk about the school. I was charmed with the child.

"After supper, when we were all sitting around the fire, Polly said, 'Speak one of your pieces for mother, Ruth,' and Ruth asked, 'Which one?' 'Oh! the One-Hoss Shay, or Barbara Fritchie,' said Polly.

"Then Ruth stood up and spoke the 'One-Hoss Shay' in a clear sweet voice that had a delightful ring to it. After that they played fox and geese awhile, and then went to bed; for we always got up at four, and we could not afford to sit up late.

"About midnight Polly came and told me that Ruth was sick. I went into Polly's room, and the minute I saw her I said 'measles,' for I knew they had it over in the neighborhood where Ruth lived. Her face was red as scarlet; her eyes were swollen shut; and she was moaning and throwing herself about. I put hot bricks to her feet, and a cool wet cloth on her head, and sat by her till morning. Then we sent for the stepmother and the doctor. The doctor came, and said it was as good a break-out as he had ever seen, and that the only thing she needed was good nursing. The stepmother never came. She was an iron-stone-china sort of a woman, and no more capable of caring for Ruth than a bear would be of caring for lilies and pansies.

"The year after Ruth's mother died, she spent with some people named Pearson, and the good-ways-to-do things, and the money-making ways of that family, would fill a volume. They were nice folks too. I know they were, from what Ruth said about them. Then her father married again and she went home to live. But her father lived only a month after his last marriage; and, as I sat by her night after night, I could not help saying, 'Poor little lamb! poor little lamb!'

"I took care of her at night, and Polly waited on her in the daytime. Nearly all of Jordon's school had the measles, and he quit teaching, and she got along nicely.

"One night, when I was sitting by her, she asked if she could not stay and live with us. 'I like you all so well, and you are so good to me,' she said; and she pressed my hand to her cheek that was wet with tears. 'There, there,' said I, for I knew she must not be excited, 'if we were able we would keep you gladly; but we are in debt, and have hard work to get along. But you need not go back to your stepmother. There are plenty of good people in the world who want children to raise; and if we do not keep you, we will get you a good home.'

"You see, this farm belonged to Jordon's father; and when he died, Jordon bought out the other heirs, and he was obliged to mortgage the place to do it; and we had lived plainly, and worked hard, and Jordon had taught school every winter, and we had paid it all off but a thousand dollars, and that seemed to hang. We had bad seasons, and Jordon was sick all one summer, with fever and ague; our hogs died with cholera, and our horses with epizootic, and every thing seemed to be going to rack and ruin. I was discouraged. The first ten years I was light-hearted, and thought it almost a joke to make money and pay off the mortgage; but for the last five years I had been losing heart. I could not see where the end would be. But, Jordon loved the place, and could not think of leaving it to better himself. I am a little sentimental myself; but when sentiment comes in conflict with an empty stomach or a bare back, then sentiment is bound to go to the wall.

"Well, one day when Ruth was quite well, Jordon and Polly stopped me out at the well, just as I was starting in with a bucket of water, and asked, both at once, just as if they were speaking a piece in concert, if I didn't think we could keep Ruth.

"'Keep Ruth!' said I; 'where is the money to keep her on?' and turning to Polly I asked, 'Have we any coffee in the house?' 'No,' said she, 'nothing but corn meal and molasses browned together.' 'Have we any sugar?' I continued. 'No,' said Polly, 'but we've plenty of sorghum molasses, and it makes real good cookies. 'Have we any tea?' I went on. 'No,' said she, 'nothing but spicewood, but it is'—'Oh, yes! I know what you are going to say; that spicewood tea sweetened with sorghum is good enough for anybody. Sorghum cakes, sorghum tea, and sorghum coffee, corn cakes with sorghum on them, fried mush and sorghum; I'm tired to death of this everlasting sorghum business.' And then, turning to Jordon, I asked, 'How much money do you happen to have on hand?' 'About two dollars,' said he. 'About two dollars,' I repeated after him, 'and Ruth's doctor-bill is three dollars, and the taxes due next month. Oh how rich we are! we ought to start a free hospital, or an orphan asylum, with our extra cash. Princes who ride in gold chariots are poor when compared with us.' 'Well, well, well,' said Jordon hurriedly, 'if you don't want her, of course we won't keep her. But, Polly wants her to stay, and she seems to be a handy little thing; and I thought we could contrive to keep her somehow. But if you don't want her, why, of course she can't stay. I'm going to Ashland to-morrow to quarterly meeting, and I'll ask Mr. Hults about taking her. I've heard they wanted a little girl to live with them.'

"'But, I do want her,' said I. 'I like the child, and should hate to have her go away; but you know how we are situated; if it were not for the mortgage now'—but they had both gone, and left me standing there staring in the water-bucket.

"Ruth stayed on. When spring came, and the weather grew warm, and the birds were building nests in the June apple-tree in the yard, and the bees were humming among the apple-blossoms, Ruth came out one morning where I was looking at the May pinks, and stood by me, chewing her bonnet-strings. I knew as soon as I saw her doing that, that she had something on her mind, and I asked, 'What is it now?' 'The bees!' said she; 'four of the hives have no live bees in them; and the combs ought to be smoked to keep out the moths.' 'That's easily done,' said I. 'Just get the chip-pan that we used to smoke mosquitos with, and make a fire in it, and set it under the bench, and smoke them all you've a mind to.' 'Oh, no!' said Ruth; 'I don't mean that; the combs must be smoked with brimstone, to kill the mothworm. Mr. Pearson kept bees, and I used to help do every thing with them, and I'll fix your bees so they will make ever so much honey, if you'll let me.'

"'Why, of course you may,' said I; 'you may do any thing you please with them. They have never been of any use to us. They swarm out every summer, and we hive them, and they sting us to pay for it, and that is all the pay we ever get. They don't make honey enough to keep themselves, and some of them die every winter.'

"And that child took those bees—there were six live colonies and four dead ones—and she lifted the mortgage with them—lifted it right off our backs, as it were, and let us stand free once more. That night she talked with Jordon about it. He was skeptical at first, for he did not believe that she could do any thing with them; but, after she had told him all about Pearson's bees, and the tons of honey that they sold, he consented, and said she might try it, and that he would get the lumber and things she wanted. You see, Ruth was an 'amateur' carpenter; that was what she called herself when any one said any thing about her carpenter work. We had a chest of tools that belonged to brother Charles, and Ruth's father was a carpenter, and had let her make little things, and she loved to work in wood.

"The next morning Jordon went to Ashland to mill, and Ruth went with him, and she went to all the stores, and picked out the kind of boxes that she wanted, and Jordon paid for them. Then he drove to a lumber-yard and bought two wide boards for covers, and Ruth sent to a bee-furnishing house for frames to hang in them. And before the frames came, she had made those twelve boxes into 'patent' hives, and she took the empty comb from the hives where the bees had died (they were hollow logs sawed off, with boards nailed on one end), and fastened it in the new frames with pieces of tin cut from old fruit-cans. She used only the worker-comb; she said bees had too much drone-comb any way, if they built the combs themselves. Before Ruth came, we always had exciting times when the bees swarmed. We rang the dinner-bell, and beat the bottoms out of tin pans, and threw water among them, and took out the looking-glass, and often Jordon would fire off the gun before they would begin to settle; and we'd hurry and scurry, here and yonder, to get them down and into the hives. But, Ruth changed all that. When the first swarm began to come out, she went and stood close to the hive; and when the queen came out she caught her and brought her into the house in her hand; she clipped one wing with Polly's new scissors, and put her under a tumbler on a plate. Then she placed the new hive directly in front of the old one, which she had covered with my old black shawl, and she sat in the shade of the maple-trees, and waited for the bees to come back.

"I felt dreadfully nervous to see that large cluster of bees hanging there. They were high up on the May cherry-tree, and nobody doing any thing. But presently they began to come back, and you should have seen them piling and tumbling over each other in their haste to get into the hive. They acted just as if they were ashamed of going out at all, and wanted to hurry in before any one saw them. Ruth put the queen down on the bottom-board, and let her run in with the rest. Ruth and Polly carried the new swarm, and set it on four bricks, on the north side of the white lilac; for Ruth said the bees needed a little shade in hot weather. And sometimes when the bees did not cluster as soon as I thought they ought to, I would get excited, and ask Ruth if I hadn't better beat something, but she said there was no need of it. She made drone-guards of an old zinc that we had thrown away. She cut it in strips, and punched them full of holes just large enough for the worker-bees to go through. These she fastened at the entrance of each hive. She left them up until the middle of the day, when the drones go out to play, and then she shut them down, and there would be handfuls of them chilled to death under the hives every morning.

"She said the best thing about comb foundation was, that it enabled us to control the production of drones, and that a few inches of drone-comb was enough for any hive. Oh you ought to hear Ruth talk about bees! She had the contents of the bee journals at her tongue's end, and she would quote Virgil and Quinby and Langstroth to prove any thing that she wanted to prove, and in a week or two after they swarmed she put on honey-boxes; and almost before we knew it, they were filled with the nicest white-clover honey, and she took them off and put on more, and we soon had the top of the safe piled full of honey clear to the ceiling; and whenever Jordon went to town he took a box along, and traded it for sugar and things, and we were a *very* sweet family indeed.

"We made $45.62½ from the bees that year, besides eating all the honey we wanted, and giving away some, and we had two full boxes to last us till honey came again. We had ten colonies of bees in good condition; and all that long hot summer, when Ruth was so busy with the bees and other work, she never neglected her lessons. Sometimes she studied only half an hour at noon when Jordon was in the house to help her, and sometimes an hour at night after the day's work was done. She would read every thing she could find. The next winter she went to school to Jordon. He taught our school, and she had only a mile to go, and she never missed a day. The next spring she sent for hives in the flat. They cost seventy cents each, and she nailed them together herself. She had a guage to hold them straight, and a picture of the hive to look at. She painted them red, white, and blue, and she named our apiary 'The Union,' and the hives were our colors, she said. Then she sent for a cold-blast smoker, that didn't singe the bees' wings a mite, and we all wore bee-hats made of wire screen; but we worked with bare hands, and with our sleeves rolled up; and when the bees stung us we did not mind it much.

"One day the Rev. Mr. Carr, our new preacher, was taking supper with us, and the talk ran on bees; and Ruth said, 'Do you know that, after the bees have stung you about two hundred times you get so full of the poison that you don't feel it at all?'

"'I believe you!' said the reverend gentleman. 'If two hundred bees should sting me, I'm quite sure I should never feel *any thing* again,' and he laughed heartily.

"That year we raised queens to sell. First, Ruth sent for Italian and Holy-Land queens; and so fast as they came she killed our common queens, and introduced the pure ones. Then she advertised in the bee journals that she would sell 'dollar queens.'

"We sold over a hundred queens and three colonies of bees and some honey. That was not a good honey year. We sent the queens in funny little boxes called queen-cages, made of wood and tin, with a screen door on one side to give the queen and the few bees with her plenty of air, and there was a little tube filled with candy, made of honey and powdered sugar, for them to eat on the way. Queens have been sent in similar cages across the ocean in the mails, and have arrived in safety.

"Besides this, Ruth wrote for the bee journals and made money that way, and, altogether, that year we cleared over a hundred dollars, and we had twenty-five good colonies to winter over.

"That winter, Ruth went to school in Ashland. She worked for her board, and the tuition was only fifteen dollars. The next season we sold over a thousand queens; some of them were tested, and those we sold for $3.00 each; but the most of them were dollar queens.

"We had an extractor that year, and we extracted a barrel of as nice basswood honey as mankind ever ate. We sold it for ten cents a pound, delivered on the cars, and threw in the barrel, and that year we paid off the mortgage, every cent, every mill of it. Polly and I helped Ruth in all the busy times. We sent queens to seventeen States and to Canada; and the year after, we built this house (the old one was just ready to fall down); one side had sunk so low that I was almost afraid to walk about the floors, and we had to set pans all over the beds to catch the drips when it rained. Then we bought the cottage organ and the phaeton. Ruth is now at the Cooper Institute, in New York. It is an art school, and was endowed by Peter Cooper, the great philanthropist, for poor boys and girls. She is going to be a wood-engraver. She is working hard, but she finds time to write us splendid letters every week.

"We have one hundred colonies of bees now. Polly attends to them; she runs them for comb honey mostly, because it is less work. She writes for the bee journals too. She took music lessons all last winter, and she plays the organ in the new church every Sunday.

"Jordon doesn't teach school any more, and he seems to grow younger every year, and I feel that to Ruth we owe it all.

"Dear litttle Ruth! the Ruth in the field of Boaz never gleaned more faithfully than she, nor loved her mother-in-law better than Ruth loves me."

I looked at Mrs. Morse to see if she was going to tell any more; her eyes were closed, her ball was on the floor, her knitting was sliding off her lap; she was asleep. MAHALA B. CHADDOCK.

Vermont, Fulton Co., Ill.

STRAWBERRIES FOR PEOPLE WHO HAVEN'T EVEN A GARDEN.

A SUGGESTION FROM ONE OF OUR BEE-FOLKS.

PERHAPS some of the young folks would like to know how to raise strawberries where there isn't room for a "patch." I take the following from the report of the Western New-York Horticultural Society:

"Take a barrel, and bore rows of inch holes about five inches apart. Fill with soil to the first row of holes, put a plant in every one; fill up to the next row, and set another row of plants, and so on, until the barrel is filled. You can get about 100 plants in a barrel. Whenever the soil in the barrel gets dry, water with liquid manure. In the case described, those planted in the barrel had five good berries to the plant, while those planted in the ground in the usual manner had scarcely a good berry."

Howard Center, Iowa. BURDETT HASSETT.

A PICTURE OF BEE CULTURE,

IN POETRY.

WE are indebted to somebody, we don't know who, for a copy of the *Blizzard*, of Oil City, Pa., containing the following poem. It was certainly written by somebody who knows bees, without question, and some one who possesses no mean talent, according to my judgment; but there is one thing in it that gave me pain, and that is, that any bee-keeper under any circumstances (and I grant you they sometimes meet trials not to be despised) should so far lose self-control as to swear. We hope you did not do so, friend M., and that it was only for the sake of making rhyme that you put in that word. In fact, I was tempted to cross the word out and substitute another; but I really should have no right to do that, you know, so I concluded to simply put in a remonstrance, as I have done, not only against profane swearing, but against any thing that would seem to indicate that we are addicted to any such habit. Now, why can you not change it so as to leave that word out, and have it stand as a gem without a flaw?

These lines, my disappointed friend,
Which meekly now to you I send,
And which in meekness I have penned,
Will truly say
Why to your home I did not wend
My way to-day.

I am a bee-man, as you know—
One of those chaps that to and fro
Among the hives can come and go
With careless ease,
And gaily scoff at folks who show
A fear of bees.

One of the chaps who laugh at those
Who don so many extra clothes,
And muffle so from eyes to toes
Their timid forms,
That they resemble Esquimaux,
When hiving swarms.

Well, yesterday, with dauntless air,
And honey-tools, did I repair
Unto the shrub-fringed regions where
Our hives are set,
To take such surplus stores as there
Might be to get.

"As merry as a marriage-bell"
The work went on. "This year 'tis well—
Plenty to eat and some to sell;
Yes, quite a lot,
Whereas last year a decent smell
We hardly got."

'Twas thus I murmured as I plied
My smoker and my brush, and eyed
With honest apicultural pride,
Upon the board,
The white-capped sections, side by side,
With sweetness stored.

But, sweet and joyous thoughts must flee:
When most my bosom throbbed with glee,
Up rose a "busy little bee"
From out the lot,
And made a lightning pass at me.
(I heeded not.)

Again it came (I feared no foes);
And then again (still all repose):
And then upon my dainty nose
It lit and hung;
Then it dug in its little toes;
And then it stung.

Ah! how it humped its little back!
I thought I heard it fairly crack,
And saw its little face grow black
As aged comb;
That bee was no untutored quack—
It "sent it home."

You should have seen me paw the air
And drop my tools, and claw my hair,
And through the currant-bushes tear
With steps not short;
And rub my well-punched nose, and swear
And sneeze and snort!

Enough. This is no joking sham,
But true as your name isn't Sam;
I've told you why I'm where I am,
And not at ease.
My nose is bigger than a ham—
Away with bees!
—*F. F. Murray.*

ANOTHER DRONE-TRAP.

DESCRIBED BY ONE OF OUR JUVENILES ONLY 11 YEARS OLD.

FATHER has 10 stands of black bees he bought this spring; he is transferring them into Simplicity and Langstroth hives as fast as he gets Italian queens to Italianize them, and whenever he thinks they have sealed their honey so that they pay for the outlay at the same time. One hive in particular had so many drones in it that father made a trap to catch them; it is a small box with glass in the place of the lid, 3 or 4 holes bored in the box close to the bottom near one end (each hole large enough to admit a drone); a pin bent like a U is driven in on the under side of each hole inside of the box; another large-sized pin is driven in to hang over the center of the hole with the point through the U at the bottom, but clear of the bottom. The drones pass through the holes made for them; the pin moves in with them as far as the U allows it, and the pin prevents them from going back again. There is a strip cut out on the opposite side of the trap for workers that may come in to pass out. This trap is placed on half of the entrance to the hive; the other half is closed with a slat, so that workers only can pass under it. Father puts this trap on early in the morning. It will catch all the drones in one day.

I live at Point Lookout, where General Hooker fought the "Battle above the Clouds." I have 3 brothers and one sister. GEORGE LAWSON.

Lookout Mountain, Tenn.

Our friends will please bear in mind, that, in the drone-trap described by our friend George, the drones are permitted to go into the trap through holes over which a common brass pin is hung, so as to act like a valve. When the drone pushes his head against the pin it moves it out of the way so as to let him pass; but after he has passed it hangs straight down across the opening. The bent pin which our friend likens to a letter U is more properly like a blind-staple. This is driven over the lower end of the pin, and the opening is long enough to allow the pin to slip down far enough to let the drone pass; then when it drops down vertically of its own accord it is prevented from being pushed from one side to the other by this same blind-staple. The only difficulty in the matter seems to be to get the pin hung so it will swing freely, and not drop out. It seems to me the readiest way of accomplishing this would be to hang the large-sized pin head downward. Bend the point into an eye, like the eye of a needle, only larger, and then drive a small blind-staple so that one leg goes through this eye. The pin will now swing easily, but can not get out of place so as to get stuck, even if the box is tipped over. The best proof of the working of the machine is, that it actually did the work. And now, friend George, if our other friends succeed in making it catch all the drones in one day, we shall owe you a vote of thanks.—I am glad that you are posted in regard to the historical events connected with your home.

FROM THE LAND OF THE ORANGE-GROVES.

MRS. E. L. FROSCHER WRITES TO THE JUVENILES.

I HAVE never written you a letter, so I thought I would try to-day. Our bees are working nicely. We extracted 100 gallons last week of the nicest honey I ever saw, and the best tasted. It was gathered from the cabbage-palmetto tree. I suppose there are many of you who never saw a cabbage-palmetto tree. It has in the top a cabbage that is good to eat, either cooked or raw, and they make splendid pickles. The leaves are good to braid, and make hats of, and we cover our bees for shade with them, so it is a useful tree. I presume we shall extract as much more honey this week of the same kind.

I think the Cyprians the best honey-gatherers as well as the best stingers. We use plenty of smoke when we go to them. I notice when honey is scarce, the bees work on scattering flowers. Among them are what we call "fly-catchers," a very sticky or gummy flower; if the bees alight on it they stick. They soon find it out, so they fly around the flowers and stick their tongues out. I will send you a piece in this, though it has been in press a good while. It is a wild flower.

The bees work well on the crape myrtle. There are three kinds — the pink, crimson, and white. I have the pink and crimson, but the white is more common north. If any one wishes the pink and crimson (or purple), and will send me the white, I will send in return the kind I have, or any other flowers or bulbs, though I have not a great variety.

I know our orange-trees would look nice to many of you. We have more oranges this year than we have ever had before, though I miss the apples, peaches, etc. But some friends north send us such fruits, either dried, fresh, or canned, and we send oranges in return, which is very pleasant to both sides.

I like to read the letters from so many little girls and boys, and a good deal of useful information can be learned through them. Elbert is writing a letter. Last winter, while we were making foundation, Elbert suggested that we try the white of an egg to keep the sheets from sticking to the rollers. We did try, and found it was the very thing we needed. We had no more trouble. I thought it was a pretty good suggestion for a boy ten years old, and I found it much nicer making foundation than using starch. I used a little cold water with the egg, after we got started. Did any of you ever try running honey from a barrel with a siphon? We use one. It is slow but convenient.

MRS. L. E. FROSCHER.

La Grange, Brevard Co., Fla., Aug. 1, 1884.

A JUVENILE INVENTION; USING THE WHITE OF AN EGG IN MAKING FDN.

Our bees are working nicely. Papa got a Holy-Land queen last week. It is doing well. Papa and mamma made our first foundation last winter, and it would stick in spite of all we could do. We tried all that was mentioned. I was helping them; and as it kept sticking, I proposed to try the white of an egg, and it worked well. ELBERT A. FROSCHER.

La Grange, Fla., Aug. 18, 1884.

Thank you, my friend, for your valuable hints and suggestions.—We are glad to hear about the tree that bears cabbages. No doubt the white of an egg diluted with water will be found an excellent lubricator to keep the wax from sticking to the foundation-rolls. I am afraid it will take an awful lot of eggs, however, in our establishment. We use two or three barrels of starch a year. Your suggestion, friend Elbert, was a good one, and I am glad to hear it got you out of your trouble.

ALICE'S DESCRIPTION OF HIVING A SWARM.

WHAT THEY DID, AND WHAT THE BEES DID.

THERE was a good deal of fun about it. Not a great deal of *fun* either, but it was fun after all was over. We had all been raspberrying; and when we came home papa went out to "our apiary" to see if all was well, and, to his surprise, he found that No. 3 had swarmed. We had just had a slight shower, and in looking around he saw them in a large ball on a limb of a tall oak-tree. Papa called me, and we all set about to hive it. Papa climbed the tree, and my sister and I fixed the hive and sheet. No sooner had the sawing commenced than the stinging began too. I was not paying attention as I ought, and the shaking of the limb, caused by the sawing, shook a good many bees from the cluster, that came down right over my shoulders. I didn't mind it just then, for the whole limb came tumbling down on the sheet, and papa came hurrying down the tree, and he, with mamma's help, managed to get the bees out from his shoes and from under his hat. Contrary bees, that they were! No sooner had we them in the hive than they came right out and clustered on a small branch suspended from a very large one. Papa had a ladder made by this time, and we attached a smoking rag to the end of a long pole. Papa climbed the ladder, and we smoked him well. Do tell us how much your smokers are. We need one, I'm sure. All went well this time, and we soon had those naughty bees safely housed in their place.

There are a few things which mamma wants me to speak about especially. First, about our bees fighting. They seem to fight together, members of the same hive. Sometimes the alighting-board and a good way around is almost covered with dead bees. What is the cause?

Basswood is not very good this year; at least, it didn't bloom very well.

Our cellar is not good. We were intending to build this fall, but circumstances will not permit. Papa wishes to know if you would think it advisable to build some sort of a little shed outside, and put a couple of loads of straw on it, and ventilate it well for the cold winters of Minnesota.

ALICE E. REDOUTE.

Alexandria, Minn., Aug. 10, 1884.

I can not tell you why members of the same hive should fight, Alice. Are not the hives so close together that the bees from some other hive get in there by mistake?—I would not advise any small structure for wintering bees. Unless it is large enough to hold forty or fifty swarms, they would probably be worse off than outdoors, where they would get some benefit from the sun. Besides, houses built outdoors, unless made large, and at considerable expense, do not do as well as cellars. See what the A B C book has to say in this matter.

A HEAVY LOAD TO CARRY.

A NICKEL'S WORTH OF HONEY.

CHILDREN, I have no money to-day, except a a nickel, and that has a history. Two boys came yesterday four times for a nickel's worth of honey. Now, there is neither profit nor pleasure in selling a nickel's worth of honey, except seeing them enjoy eating it. They sit down on the sidewalk under a shade-tree, dividing it carefully, and smack their lips over it with such keen relish. I went out to the honey-house for the honey, and the boys went along. One of them called out that the bees were after him, and ran into the house. When I came into the house, and went to put up the nickel, my porte-monnaie was gone. These boys belonged in St. Louis, and probably took a train immediately for there, soon after taking my money. But, they took a load with them that they will never be able to get clear of—not the porte-monnaie, for they can throw that away, and spend the money, but the load of a guilty conscience.

I've been sorry for those poor boys all day, and pray God to show them the error of their ways. I've thought a great deal about bad boys lately. Not my own, for I have none, but some boys that I know, whose mother is in her grave. I expect to pass through this world but once, and I must do my duty while I am on the way, for I can not return to perform what is undone. Cain said, "Am I my brother's keeper?" And others say, "Let their fathers take care of them." But if I do not make an effort, at least, to put them where they will be taught what is right, will not God hold me responsible?

A dear friend of mine, whose children are all grown, said to me lately, "I made a great mistake in educating my children; and if it were to do over again, I would do very differently. I would educate the hand and head together. This thing of giving the whole attention to books, and not doing any real work until through school, is all wrong."

Years ago a boy was rich who owned a jack-knife; and if he wanted a top, kite, or sled, he made it, and enjoyed making such things much more than playing with them. Now they are bought ready made. Boys, when you have money enough to buy a sled, invest it in a kit of tools, and make your own playthings. If you want a swarm of bees, make a hive, movable frames and all, and pick up potatoes, or do some kind of work, to earn a swarm to put in it. And if you are going to use the honey at home, make your own surplus boxes. You can do it if you try.

Mr. Root wants work for the boys and girls of Medina, Ohio, and we want work for the boys and girls all over the United States. Do not run away from home, as the boys did who stole my money, but seek work where you are—not easy work, and don't do any thing until you find it. When school is out, if you have no work at home perhaps some of your neighbors have; and, if you are willing and handy, they would be glad to pay you for doing it.

Peoria, Ill. MRS. L. HARRISON.

THE WAY THEY KEEP SALOONS OUT, IN LOMPOC.

CALIFORNIA GREAT FOR HONEY, BUT DEATH ON WHISKY.

DEAR CHILDREN:—We went to Lompoc recently. Now, Lompoc (pronounced Lompoke) is a village where they are trying to keep out saloons; and when any one is mean enough to talk of starting one there, everybody is interested to know what the people will do; for, unfortunately, there is no State law against saloons yet; but when our Band of Hope boys and girls get to voting we expect to have a law of that kind; but at present no one has authority to keep out saloons. Still, three have tried to have a saloon there, and the first one was opened in a hotel. The people went to the owners and asked them, in the name of God and humanity, and, knowing the sentiment of the people against saloons, if they would not discontinue it. But, no. The love of money was greater than the love for humanity. So after every means was employed within the law, and parents were saddened by learning that their boys were enticed there, and even some fathers who had moved to Lompoc to get away from the temptations of saloons, were being ruined, a few met in secret council, and decided that it *must* go.

Well, one morning an unlighted bomb was found in the saloon, and the proprietor was so alarmed that he sold out his hotel, and left within a week. Then some others built a house and kept liquors, and a strict watch was kept, night and day, for a time. The same entreaties were used with them, and failed. The proprietor had to go away on business one day; and while his clerk was away at supper, the building was blown up with *lighted* bombs, and the ruins stood as a memento for more than a year.

Then two other beings tried it. They built their 6 x 8 building close to an innocent man's house, and defied being blown up. The people met — men, women, and children — and after prayers and songs to God in the open streets, men and women went to that building and begged of them to shut it up. They only laughed, and said no; they would not. So a rope was run around the house in a twinkling, and men, women, and children had that building torn down in short order, the proprietors getting out the best they could. They went to law about it; but although we have lots of liquor-drinkers in this lovely country, yet not one would convict any of the people, and so Lompoc is left in peace for the present.

As we were going to Lompoc, away up a good-sized mountain we saw a large lake. It is called by the Spanish, Seco. Now, Seco means dry; but as there is always lots of water in it, I can not imagine why they call it dry, unless it is because it has no inlet nor outlet that we can see. There are no trees around it, and there must be great evaporation during the summer, yet it does not get lower. The waters are rily, and no one dares drive into it, as the quicksand is very bad. The Spanish say that there is no bottom, but we rather doubt that; but as no one has a boat to try it, we have to take their word for it.

As we were coming back from Lompoc the sun was just setting behind the mountains that rise on three sides of the lake, and the beautiful lights and shades cast by the setting sun made my heart glad and thankful to God for strewing such beautiful and beneficial things in our path; and I am sure the cattle which surrounded the lake, quenching their thirst after the heat of the day, were grateful too, for they were all so peaceful.

RECORD OF THE HILTON APIARY FOR 1881.

We had 100 stands, spring count, and have 175 now. We got 10 tons of honey, so clear that fine print can be read through an inch bottle full of it, and it is delicious in flavor, and thick. We never have had any of that kind candy, although we have kept it over a year. I don't know what it might do if frozen, but we can not try that here. MRS. J. HILTON.

Los Alamos, Cal., August, 1884.

It may not be just the thing at the present time to blow up saloons with bombs, or to put a big rope around them and pull them to pieces, as you tell us they do, Mrs. H., in California; but still, I think the determined spirit exhibited by the people of Lompoc is about what we need just now at the present crisis. It seems to me it is an indication that there is a screw loose somewhere, when a small minority of uneducated, besotted liquor-sellers should defy the efforts of our schools and churches, and of the pure men and women that represent the intelligence of our land.

VIDET'S OBSERVATORY-HIVE.

Also a Description of the way Bees Behave.

A LETTER FROM ONE OF MY LITTLE NIECES AWAY OVER IN ENGLAND.

DEAR UNCLE AMOS:—I am a little girl 9 years old, and I claim you as my uncle. I know you will not mind. I want to tell you about bees. I am staying with my dear sister; her name is Mrs Tomlin, and my new brother keeps bees in an observatory-hive, 4 L. frames. You can see the bees on both sides; you can see the queen-bee back into a cell and then lay an egg in it. You can also see the workers hatch from the cells. I sit at the window watching the bees come home with knickerbockers on. Then I can see them come up into the hive with a great fuss, twirling round and round on the comb before they put their load away into a cell. Another bee is waiting to press the knickerbockers down to the bottom of the cell. I can always see the queen in a ring of bees, some kissing her and others making way for her, so that she can lay eggs.

We take GLEANINGS, and I read the JUVENILE. I like it very much. We always read the Home Papers, because they are so nice. I go to Sunday-school. VIDET BERNHARD.

251 Green St., Victoria Park, England, July 12, 1884.

Thank you, friend Videt, for the very accurate description of the way your bees behave. I know it is true, for I have seen them do almost every thing you mention.

JUVENILE DEPARTMENT

Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows; viz., Sheer Off, The Giant-Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

"A chiel's amang ye takin' notes;
An' faith, he'll prent it."

WELL, little friends, for the first time in a good while we have used up the last letter in that little drawer in my desk, labeled "Juvenile Letters." I presume you have been so busy during these vacation days with your plays and pastimes that you have not had time to write letters as you do in the winter time. Well, all right. I suppose you have been having a good time, just as I have, out in the open air, so I think I won't write much either this hot September morning.

FROM GRAND-RIVER APIARY.

My brother has 28 colonies of bees, and I watch them for him in the swarming season, and he gives me 50 cents a swarm. I am 11 years old, and I go to Lyons to Sabbath-school. **JENNIE KENYON.**

Lyons, Mich.

CUTTING A BEE-TREE.

There are lots of wild bees here in the woods. Old Mr. Stanly found 7 or 8. Last summer papa found a swarm of Italians in a cottonwood 60 feet high. He cut the tree, but it all broke up and killed the most of them and the queen, so they all died. They had 3 gallons of honey.

Glendon, Iowa. **LEE MILLER**, age 9.

DANNIE AND HIS PAPA'S ALBINOS.

I am a very little boy. I can not write very well, but I thought I would write to you and tell you about papa's bees. He is interested in the queen business, and he sells a great many. He thinks his albino bees are the prettiest and best bees in the world. **DANNIE PIKE.**

Smithsburg, Wash. Co., Md., Aug. 13, 1884.

THE CANARY BIRD WITH ONLY ONE EYE, ETC.

My papa has no bees, but I am in hopes he will get some, as I am fond of honey. He buys honey of Mr. Talcott. I have taken one and a half terms in music, which I like very much. I live near the creek, for my papa is a miller; I have a pet lamb; its name is Jennie. It is six months old. I had a canary bird which was hatched with only one eye.

LULU PETTIGROVE, age 11.

Owego, N. Y., Aug. 22, 1884.

A GOOD REPORT FOR A BOY.

We have 75 swarms of bees. I caught a swarm three years ago. I have 17 swarms; from one of them I took 164 lbs. of honey in one season. We have a vineyard, and had a good crop of grapes last year, and got a good price for them. I have a strawberry-bed which did well for the season.

CHAS. L. DAVIS, age 13.

Carbon Bluff, Ill., Feb. 2, 1884.

GETTING STRAWBERRY CRAZY.

Pa has 35 colonies of bees. We did not get much honey this year, and what we did get we could not eat. We have a strawberry patch, but they are not potted plants. Pa and the boys got strawberry crazy last spring, and set out 600 plants, so by next summer we expect to pick a good many berries.

ELLA M. LOVETT.

Crestline, Ohio, Aug. 21, 1884.

160 SWARMS, AND 6000 LBS. OF HONEY.

My uncle keeps about 160 swarms of bees, and has taken 6000 lbs. of honey from them. He takes GLEANINGS, and I read the children's letters. Bees are working on buckwheat now. His honey is nearly all extracted. He keeps it in kegs and barrels. His honey-house is almost full now.

LILLIE CATES, age 9.

Independence, Ia., Aug. 25, 1884.

MOVING BEES.

My Uncle Howard keeps bees. My papa and he own a saw-mill, and so he lives here all through the week. Last summer he brought part of his bees up here so they could make honey off the weeds and thoroughwort. When he brought them and let them out they were awful cross, and we had to keep out of the way. Uncle Howard has 40 swarms. I have all the honey I want. White-clover honey is the best. My papa is afraid of bees, and runs every time one comes near him. **INEZ M. CLEVELAND.**

Giddings, Ashtabula Co., Ohio.

PETER AND HIS BROTHER.

My brother has 13 bees, and he likes to talk bees. My brother gets every month one of your GLEANINGS, and he likes to read it. This year is not very good for honey. Last year my brother got some of your Simpson and spider plants, and every morning there is a big drop of honey in it.

PETER A. SCHWARTZ, age 11.

Berne, Ind., August 14, 1884.

It seems to me, Peter, your brother is not a very large bee-man, if he has only 13 bees. I presume you mean he has 13 *hives* of bees, do you not? Well, never mind, for I know that is the way they have of talking in a good many neighborhoods. I am glad you saw the honey on the spider and Simpson plants.

DOES WHITE CLOVER MAKE WHITE HONEY-COMB?

I live in Central Kentucky. The honey-comb there is as white as milk, and the honey is a light straw color. Here the comb is very dark, and the honey is almost brown. The reason is, because the bees here have no white clover to eat, mother says.

JOHN J. DUNLAP, age 8.

Lexington, Ky., Aug. 25, 1884.

While your mother is partly right, friend John, I think that there are other sources that produce even whiter honey and whiter comb than the white clover.

We sold nearly 900 lbs. of extracted honey at 12½ cts. a pound to one man. My brother has taken care of the bees last year. I have been going to school. EMMA KIRK, age 11.

Columbus, Kans.

LULU AND HER AUNTIE.

My auntie taught me how to write. She used to teach school, but now her health is poor, so she is trying to keep bees for profit. She uses the Controllable hive, with glass boxes. May be she will write you some day to tell you how she gets along with her bees. I go to school every day I can, and I like to read good books.

LULU E. GIFFORD, age 8.

East Chatham, N. Y., Aug. 14, 1884.

ELMER'S LETTER, VERBATIM.

My PA HAs 5 CoLONIes oF Bees. i LiKe To
WOrk wiTH tHeM, i got sTUNg oNce,
THe Bees get A loTs of HoNeyfroM BlUe-
VerVINe. ONe SWArM- Wen of BuT PA
foUND TheM iN WooDs.

eLMer HeISeLMAN. Age 8.

SiLVer LAke iND

if- YOU ThINk ThINK THis Is WOrTh 6
BoOk PLeAs Se ND RoBay fAMiLy.

CHARLEY'S LETTER.

My pa has 5 colonies of bees. He has wintered 3 of them. They gather honey from mustard. My pa is afraid of the bees. He has my brother to take out honey. He had two swarms in a hive, but they would not stay. Bees will not stay in a hive that stands out in the hot sun. I have four brothers and two sisters. I go to school, and I read in the Fourth Reader. CHARLEY HEISELMEN, age 13.

Silver Lake, Ind.

HENRIETTA'S REPORT.

I love to read the letters in GLEANINGS. Last year papa sold 28 hives of bees and kept two, which mamma attended to. She increased to 14 hives, and extracted 500 lbs. of honey. This year we have 29 hives and 1200 lbs. of honey, besides the wax. The hives were all three and four story, and the bees built nearly all their own combs. We put empty frames between the combs, and the bees built them out in a hurry. We have a hive which had two queens. HENRIETTA PLETTINGER, age 9.

Bayou Sara, La., Aug. 14, 1884.

THOMAS' EXPERIENCE.

I thought I would tell you about my experience with bees. In the spring, 1883, I bought a swarm of Italian bees from a man, and paid $10.00 for them. They were in good order, and plenty of honey. The queen is about two years old and is a good laying one. In August I took 27 lbs. of honey, and sold it all for 20 cts. a pound. It was all in section boxes. In September I took off 23 lbs. more, and it was all gone before the next night. I put a large box over the hive, and packed it full of straw for wintering. They had 8 frames of honey. I use the Simplicity hive. THOMAS BELL, age 12.

Corning, Iowa, Jan. 29, 1884.

A BUMBLE-BEES' NEST, ETC.

We bought two skeps last fall. Well, they both died off; they dwindled away. One lasted till some time in June, and the other died in April. Well, they bought 3 swarms in June. They were young bees. They are getting on well. We have a bumble-bees' nest in the side of the house, between the lining and weather-boards. They get in and out at a small crack in the door-cheek. I got stung on the lip by one, and I ran and put wet soda on it. It swelled up some, but it went down as fast as it swelled up. I got stung six times that week—four times one day; three times on one foot, and once on the other.

ANNIE HUSTLER, age 14.

Aughrin, Ont., Can., Aug. 11, 1884.

HIVING A SWARM OF BEES, AND THE TROUBLE THEY HAD.

When father was coming home from Iowa he saw a swarm of bees in a stump. My brother and father brought them home, and after about four weeks they swarmed. They flew over the house into the garden. They wanted to alight on mother, who was there making a noise. They stung her some. They alighted on a sunflower at last, and it broke over. Father got a hive, and put them in it. They went out in the woods while we were at church. In a day or two they went off. The ones in the old hive are getting along well, and making honey.

JENNIE E. DENMAN, age 11.

Northfield, Minn., July 24, 1884.

EFFIE'S LETTER.

I have no bees, but pa has some. Two years ago he had 4 hives, and now he has about 26. They are all black bees, but pa says he expects to send to you for some Italian queens in the spring. He sent to you for an extractor last summer, and extracted about 700 lbs. of honey. I helped him extract it. Most of it was clover honey. Last summer pa gave my sister Lizzie and me ten cents for every swarm of bees that we saw come out of the hive. I got thirty cents. My brother Tom found two bee-trees last summer. He cut them, and didn't get much honey, but he saved the bees. The mice killed one of pa's swarms this winter. I like honey, and I am not much afraid of bees. EFFIE JOHNSON, age 12.

Thomas Hill, Mo.

A TRIP TO THE LAKE, AND ABOUT FINDING A SWARM OF BLACK BEES.

I thought I would write you a few lines this beautiful Sabbath morning. Yesterday we all went to the lake—papa, mamma, and we children, five in number. Pa and brother Frank caught a few fish. Pa built a stone stove, or furnace, laid a flat stone on top of it, and fried the fish. A very nice time we had riding on the lake. About sundown we started for home, and on the way I found a swarm of black bees hanging on an apple-tree by the roadside. Early this morning pa and Frank took a box and went after them. They found them hanging there all right. After smoking them and shaking them into the box, they put them in a sheet and brought them home. Pa gave them an Italian queen, and they are working finely. I go to school every day, and read in the Fourth Reader.

MYRA SNYDER, age 8.

Clarksville, N. Y., Aug. 3, 1884.

HOW TO STOP SWARMING.

My father has kept bees as long as I remember. He says 18 years. One spring he lost them all, and three years ago he lost 72 swarms, and had but 6 left. Last spring he had 20, and increased up to 37 swarms. They have done well. I have five brothers, the oldest 16 years of age. He had charge of the bees last summer. Father had been away from home except Sundays, building houses. I had to help my brother putting on and taking off boxes, and cutting out queen-cells. Father does not like to increase much. We cut out queen-cells eight days after the first swarm came out. The late swarms we hive, and look up the queen, take her away, and put the swarm back. Again, eight days after, we cut out the queen-cells all but one; that stops their swarming.

GEORGE HILLENBRAND, age 11.

Sun Prarie, Dane Co., Wis., Jan. 23, 1884.

MABEL AND HER GRANDMA, VERBATIM.

I AM SIX YEARS OLD AND LiVe In RooKViLLE ToLLAND co CoNN. BuT Am NoW VIsITING MY GrAnDmA IN PoMFRoT. ThE UNCLE WhERE I aM StAYING hAS ThIrtY-FouR hIVES oF BEEs. hE hAS JuST REcEIVED A SMALL SWArM WiTh A QuEEN FRoM iTALY hE hAD A SWARM CoME oUt YEStERDAY AND hIVED A FEW WITh ThE QuEEN AnD lEt The oThErs Go BACK To The oLD hIVE. So ThAT ThEY WOULD MAke MoRE hoNEY. I hAVe JUST ReAD ThE fIRsT PART OF PILGRiM's PRoGREss.

MABEL H. HYDE.

RocKViLLE, CONN.

HONEY CAKE AND HONEY PIE.

Pa has been keeping bees for a number of years, but was never successful until last summer, when we got enough honey for our own use. He has 16 swarms. I like honey. I think it is good on buckwheat cakes. You asked for a recipe to make honey cake or pie. My ma made a cake, and put honey between the layers in the place of jelly. I can't think of any other way, unless we make a honey pie of strained honey, but I think that would be too sweet. Pa has bought four queens this summer—two Holy-Lands and two Italians. Pa takes GLEANINGS, and I like to read it. I wonder when I read the next number, if I shall read this letter.

Fultonham, N. Y. LOTTIE BECKER.

I rather think, frienk Lottie, when you come to read this number of the bee journal you will read your letter. Is it not funny, that I can guess so well?

AN ENTHUSIASTIC BEE-KEEPER, AND WHAT HIS TEN-YEAR-OLD BOY SAYS ABOUT HIM.

My pa has 30 swarms of bees. He has taken out between 600 and 700 lbs. of extracted honey, and the hives are now full of comb honey. He is the happiest man in this county. I have heard of slavery, and think pa takes more comfort watching his little band of workers than did the master of a whole plantation. He has sown catnip, sweet clover, and motherwort in every foot of waste ground within five miles of home, for his little family. Last winter he kept them in the cellar; all but one that was in a chaff hive, and left on the summer stand, came out very quiet in the spring. Not one would sting. I help pa make frames, and tend the smoker. Once in a while I get stung, but it doesn't hurt much. I like to read the letters from the little boys and girls.

GUY M. HANER, age 10.

Cedar Creek, Wis., Aug. 26, 1884.

GEORGE'S PROBLEMS.

There is a gentleman living in this town who says that queens are not made the way people suppose them to be. He says that the queen-bee is fed on the same sort of food as the worker-bee, but is given a greater quantity of it. He says the queen lays its egg in a cell, and then the worker-bees fill it about half full of a kind of food called chyle; and when the bee is hatched it eats this food.

The queen goes around to all the cells, and lays an egg in each one. In the large cells it lays an egg which will hatch a worker-bee. I live in Lexington, Ky.

GEORGE G. DUNLAP.

Lexington, Ky., Aug. 25, 1884.

Your friend has it pretty nearly right, I think, George, but I do not know that his ideas are very much different from other people's. My opinion is, that the queen-bee is fed on about the same food as is given to the young workers, but that she has a great deal more of it.

HONEY BEER.

Pa has 58 stands of bees; they are doing very well this summer. Pa made some honey beer which our neighbors all think very good. I could send you the recipe if you have not got it already. We have also some splendid honey vinegar. I watch the bees, and get ten cents for every top, and five for every second swarm that I see.

CARRIE SHEERES.

Clarksburg, Ont., Can., August 5, 1884.

I suppose the beer you speak of, friend Carrie, is what we call small beer, and is generally considered a very harmless drink; but for all that it does contain alcohol, as any chemist will tell you, and I feel pretty well satisfied that even these mild beers often encourage a taste for alcoholic stimulants. On this account I should not recommend them, and I do not believe we had better make beer, even of honey. It is all very well to make refuse honey into vinegar, but I wouldn't drink it at all.

WHY BEES STING WHEN THEY ARE BEING FED.

I see in GLEANINGS, July 15, that you published the letter I wrote last winter, about ants carrying honey from the hives last fall. We were afraid that, when warm weather came, they would begin robbing again, but, strange to say, we have seen but very few ants near the hives this summer. We are not now afraid of them. What makes bees sting so badly, that are being fed to build them up for winter? Just as soon as the feeder is set down at the entrance at dark they will fly out by dozens, and try to sting us, instead of being grateful for their food. Papa raised some queens from eggs laid by a Holy-Land queen that he got from Mr. Harrington, but one of them is as black as a common black queen. Will her bees be yellow?

CORA MAJOR.

Cokeville, Westm. Co., Pa., 1884.

Perhaps it will be a little hard to tell, friend Cora, why bees should sting just because you feed them; but it is nevertheless true, as I have told you in the A B C book. I have thought it was because feeding can seldom be done without starting a sort of robbing mania; and when bees get into this they do the worst stinging that I know any thing about. It is a difficult task to feed in such a way as to imitate nature, unless you feed all the bees outdoors, and that is a pretty big task.—Queens vary in color, like almost all other animals, and we almost always get more or less dark queens from any kind of imported stock. These very dark queens will, however, often produce nice yellow workers. Keep the one you have, and let us know whether her bees are yellow or not.

OUR HOMES.

The wayfaring men, though fools, shall not err therein.—ISA. 35: 8.

A FEW weeks ago, at our Saturday-afternoon prayer-meeting, as the weather was extremely warm and our pastor was absent on his yearly vacation, the attendance was comparatively small; and as usual at such times, toward the close of the meeting there came a sort of pause as if no one had any thing in particular to offer. Finally an elderly gentleman arose, whom I had noticed quite regularly in attendance at our meetings, but whom we had seldom if ever heard from. He had been a member of our church for perhaps a couple of years. I can not recall to mind all he said, but some of his remarks impressed me. He spoke something like this:

"My friends, I am aware that I am only a sort of dead weight among you here; but for all that, I want to say that it is a privilege for me to be among you, even though I sit still and say nothing. I like to be here; I like to feel that people recognize me as one who attends the prayer-meeting regularly. I want to have the world know that I am trying to be a Christian, and I want to have them expect of me what we all expect of one who professes to be a Christian. I know pretty well what a Christian ought to be. We all know pretty well how we who profess to be followers of Christ should deport ourselves. Furthermore, the outside world knows what is consistent for a Christian, and what is not. Even the professed skeptics judge pretty accurately what a Christian should and should not do. And, come to get right down to the main points, friends, it seems to me that their ideas of such things, and *our* ideas, are not very much different. In all great essentials that go to make up a Christian character there seems to be a pretty general agreement, and I thank God that it is so. I want to do better than I have done; I want to be one among you, and I want you to pray for me that I may not dishonor our common cause."

I hardly need tell you, friends, that the above remarks (I presume I have not used his exact words, but I think I have embodied most of the points he made) gave us quite a lift spiritually. Our hearts not only warmed toward our hitherto silent brother, but we were, as it were, revived all round, and I have often thought since of his words; that the essentials that go to make up Christian character are pretty generally understood, and that unbelievers, men of the world, and Christian people alike, differ so little in opinion in regard to these great essentials that the difference is hardly worth commenting on. It is true, that the enemies of our cause sometimes say that we quarrel among ourselves because no two of us think alike. They have some ground for saying this, very likely, but I thank God that that sort of work seems to be passing away. Christian people are more united at the present time, the world over, than ever before, and there seems to be a very strong tendency to entirely drop these little differences of opinion, and to go to work and do what needs to be done, instead of wasting time in controversy. We who love the Bible are perhaps inclined to be harsh and uncharitable toward those who say we are not consistent; and very likely those who do *not* love the Bible are uncharitable, and magnify our faults and failings, and perhaps pass by the good things connected with the church and church people, and pick up small and comparatively unimportant discrepancies. Of course, the great work to be done toward the saving of the world is to do away with prejudice, and stop picking at trifles. I think we need to do this on both sides of the line.

Christian work often reminds me of the old farmer I have told you about, who let a great crop of honey go to waste because he had to attend to his farm crops. He had a farm of only about thirty acres, and all his crops together (they were so poor and meager) would scarcely have been worth two hundred dollars, even if harvested in the very best style. He had almost as many colonies of bees as I had, and had an equally good flow of honey, and an opportunity of disposing of it at the same market. My honey sold for more than a thousand dollars, but I could not persuade him it would be wisdom to let his corn grow up to weeds, or let his hay spoil, rather than use his extractor upon his hives filled to overflowing. It was a thing unheard of among the close farmers around him, to neglect crops, unless, indeed, the owner were an intemperate man, or shiftless beyond measure. Now, I do not want to criticise and find fault, for I often look back and see I have been guilty of the same kind of folly. We who profess to love the Lord our God with all our hearts and all our strength and all our souls, think that we must neglect the work that lies before us, to stop and argue, and oftentimes worry over the way things are going, forgetting that we have God's promise, and his guide-book open before us; forgetting the great work of saving the world through the regular channel of human work, and straying away into things that even those who do not profess to love the Lord recognize at once to be at least very far from and foreign to the purpose.

Now, the question is, "Is the way plain for a Christian?" Can one who wants to be a Christian, and who wants to be guided by the Savior, be sure that he is on the right track? I think, my friends, he can. There are sometimes difficult places, and we sometimes have difficult problems to solve; but, one who is willing to obey the teachings of the Bible and the Holy Spirit will, I feel sure, be very soon made aware of it if he is straying.

I have, as a matter of course, a good many earnest talks with those around me. Many times we do not think alike, even after we have talked the matter over very thoroughly. Well, when I am talking with one who is a Christian, I almost always have this feeling; in fact, I sometimes put it in words like this: "My friend, I think you are making a mistake, and I feel sorry to see you so strongly insist you are doing what is the right thing. But, I have this comfort; I know you are in the habit of going to God in prayer over whatever you do, and I know you will do so in this case; and if you are willing to be led by the promptings of that still small voice, I am sure that he will show you your error, and that you will come out all right eventually."

I leave the matter right there, trusting not to the wisdom of the friend with whom I have been talking, and one of two things is pretty certain—that God will show me where I have been mistaken, or he will show the friend his error, and we shall eventually think alike. This is one of the pleasant and happy things of religion, where it is true and sincere it brings mankind to think alike. Of course, if we are following one master we shall eventually be taking one path.

Some years ago a friend whom I valued greatly for many reasons, did not think as I did. He had been making the case before us a subject of prayer, as I and many others had been doing. In talking it over I was one day a little astonished at his vehemence in declaring that God could not tell him one thing, and myself and some others another thing. I was tempted to smile a little at his way of putting it. Think of it, dear friends; is it indeed true, that God says one thing to some of us and another thing to somebody else? Even good men and women are often accused of doing things of this kind. A physician gives one kind of advice to one patient, and another kind of advice to another, because of the different needs of his patients; but one does not need to think of it long to decide that the end he seeks is the same in both cases—he wants his patient to get well. Of course, this is plain enough; but Christian people, as well as people of the world, are often accused of being two-sided; they talk one thing to one set of hearers, and another to another set of hearers. Politicians are now being accused of being staunch temperance men when among temperance people; but when among those who do not believe in carrying temperance too far, their ideas are more liberal. May be it is true; at any rate, we hope that when you, my friend, are subject to similar temptations because you are a candidate for some office, you will be yourself under all circumstances and occasions.

But, to go back to our point, how is it about God? Of course, he is above all human weaknesses—"the same yesterday, today, and for ever," as we read in the last chapter of Hebrews. If God is always the same, and if he tells us who seek him for counsel the same and *always* the same thing, why should there be so much disagreement? I think it is a good deal as I have just said, because we will not listen to him, or we will not listen to reason; and if I get a correct view of it, religion is the most reasonable thing this world contains. Where it will not bear honest investigation, down with it at once. When we look over the world, and see how widely different Christian people think and work on many points, we are in danger of being stumbled; we are in danger of being led to question whether it can be God's voice that is leading; and some of these social problems, I grant, are very hard to understand. There is one place of safety, however, and that is, to decide to let others act according to the dictates of their own conscience, while we do the same, and trust God to bring us together eventually.

In talking with a good friend of mine recently, who does not accept the Bible, I thought I would see how many points in religion we could meet on, on common ground. To my surprise I was able to present it in such a way that he not only indorsed, but, in most cases, heartily indorsed, almost every essential point. My heart began to bound with the feeling that it was possible—nay, probable—that in God's sight we stood side by side; at least, as near so as was needful for either of us to be among the saved. Just at this point, however, he upset it by jumping off and talking up what he called the "damnation doctrine" and demanded to know what I thought about that. I told him I felt sure we might skip that for the time being. He declared he would not skip it, and went to telling what "we Christians" taught in regard to it. I told him that I did not teach any thing of the sort, but he as often declared that I was not orthodox.

I suppose, friends, that there are about as many who object to following the teachings of the Bible because of this matter of eternal punishment, as for almost any other one thing. Well, if the Bible as you understand it does teach eternal punishment, it certainly does *not* teach that it is for any except those who are willfully and purposely wicked beyond redemption. Suppose you should declare flatly that you would not live in the State of Ohio because we hang men for murder. I should tell you something as follows:

"Why, look here, old friend, do you propose to murder somebody? We don't hang people for any crime other than murder, and then it must be willful and deliberate murder. If you contemplate this, or even think it probable that you may willfully and deliberately take somebody's life for the sake of getting his money, I do not know how I can help you."

The doctrine of eternal punishment is a terrible one, I grant, and so is the law that hangs a man by the neck until he is dead a terrible one; but it is terrible to evil-doers only, and those who deliberately and from choice choose evil. It seems to me that most of the excuses and objections we meet with in regard to Christianity and the Bible are about like the illustration above. One who proposes to do right, and who wishes to do right, finds the way plain and simple; but one who thinks he can reap the rewards that the Bible promises, and still carry all sorts of bad and wicked thoughts and actions along with him will find it terrible, no doubt.

You may be aware that I was for a number of years an opposer of Christianity and the Bible. We are told in the sacred word, "If any man will do his [God's] will, he shall know of the doctrine, whether it be of God." Now, I had not done the will of the Master, and did not propose to. While in that frame of mind I found the Bible unreasonable and exacting. I saw no divine spirit shining through its pages. There is a little verse in the 13th chapter of Matthew that reads:

The kingdom of heaven is like unto a treasure hid in a field; the which, when a man hath found, he hideth, and for joy thereof goeth and selleth all that he hath, and buyeth that field.

Well, under the influence of my good mother's patient exhortations, and the prayers and kind words of Christian people, I was led to examine into the claims of the Bible. Even when I did not propose to abide by its teachings, I began to take a fair honest look at it; and the more I examined, the more I felt pleased with the promise it held out, until I finally began to consider selling all I had to buy it, for I began to feel pretty certain that the only way for me to become a Christian was to sell out all I had invested in Satan's domains. Many weeks, and perhaps months, were occupied in debating with myself, and studying over the matter. When I made up my mind, I hardly need tell you that I found joy in letting go old things, and investing all I had in the new. One morning I went to see my pastor, and asked him some questions in regard to what I should have to do to become a Christian. I carried along some of my difficulties that I had held fast to while a skeptic. I had read over our church creed, and I frankly told him that I was not prepared to answer as positively as it seemed a Christian ought to do, many of the things embodied in the creed.

"Well, Mr. Root," said he, "what can you say and speak honestly in regard to these matters you do not feel satisfied about?"

"Why," said I, "I should have to say I do not know. I may in time be satisfied in regard to these points, and may agree with you and other Christians; but at the present time I can not honestly subscribe to them all."

We went over them together, and I was much relieved to have him tell me that one point after another I had stumbled over was of no particular consequence, any way, and that many good people felt just as I did about it exactly. I remember asking, almost in astonishment, as we got through, "Why, is it possible, Mr. R., that this is all that is required of a man?"

He replied with a good-natured smile, "I think that it is all that is required, Mr. Root. You are sound on all the great essentials. You are willing to obey God wherever you are sure he is calling you; and all these other things are of but very, very small moment indeed."

Dear friends, I have found it so. Eternal punishment and all these other knotty problems belong to God alone, and the transgressor. If you are not a transgressor, and do not propose to be, what have you to do with them? It is indeed a simple thing to decide to follow Christ; and it does not require any very great amount of wisdom or education, or any thing else that I know of, except an honest and teachable heart, and a disposition to let God guide you.

What doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?—MICAH 6:8.

And Jesus replied to a similar inquiry, that it is only a disposition to love and obey God with all our mind, and to do to our neighbors as we would be done by. What need is there that we should bother ourselves about great weighty doctrines, so long as these things are so plain and easy to be understood? If some should claim you are not orthodox, what matters it? Is it not really true, that the whole matter is plain enough, so that, in the language of our text, where one has a sincere and honest disposition to obey God, "the wayfaring men, though fools, shall not err therein"?

TOBACCO COLUMN.

BEES, ETC., IN NORTH CAROLINA, AND SOMETHING ABOUT TOBACCO.

THERE has been a great revolution in bee-keeping in this part of North Carolina in the last five years. I introduced the Italian bees about that time, and the Simplicity hive. I was laughed at by the old fogies at first; but they have quit it since they see my honey selling at 12½ cts. per lb., and theirs at 7 and 8c. I can sell all I get, either comb or extracted, which is several hundred pounds annually, at that price. A great many others have since bought the Italian bees and the Simplicity hive, and great progress has been made by many. We now have hive factories, imported queens, and sell all the modern appliances used by the scientific bee-keeper, and all seem to be satisfied with their investment, and think the business is paying them. One of the hardest men to convince was a near neighbor, who would not buy either queen or hives, and as he was one of the most extensive bee-keepers on the old plan, and I was annoyed by his black queens, I gave him some Italian queens, which were introduced in the box hive. He had no faith in their doing any better in that kind of a hive than the black; but they have convinced him, and he now says he will never keep another black bee.

I loan him GLEANINGS, and he saw your proposition to smokers and chewers of tobacco. He asked me if I thought you in earnest. I told him I would risk your doing what you proposed, if he complied with your request, that you required him to pay for the smoker, if he went back to the practice. He said he would cheerfully do that, and I might write you to send it on. I told him I would wait a few weeks and see how he succeeded, as he had followed the practice for many years. His health was bad at that time; he has not touched it for three months, and his health has much improved, and he says he could not now be induced to resume the practice.

Settle, N. C., Aug. 25, 1884. S. MORLAN.

Many thanks, friend S. We are always glad to send a smoker under circumstances such as you narrate.

I saw in your journal that you would give one of your smokers free to any one who would stop the use of tobacco. I will give up the use of chewing and smoking both. I have 7 stands of bees in Simplicity hives. W. JUDD.

Great Bend, Pa., Aug. 28, 1884.

I have smoked six or seven years. I stopped using it the first of June. You can send the smoker, if you want to. I will pay for it if I use it any more. I expect to not use it any more, whether you send the smoker or not. WM. W. GIGER.

Heltonville, Ind., Aug. 25, 1884.

REPORTS ENCOURAGING.

1000 STANDS OF BEES PRODUCE 100,000 LBS. (50 TONS) OF HONEY.

FROM what I can learn, California has had an *extra* good honey season—almost a flood. The above figures are the report of friend Wilkin, of Ventura Co.; some others report as high as 200 and 250 lbs. per hive, spring count. The price of honey is very low, 3½ to 5c. per pound.

W. W. BILSS.

Duarte, Los Angeles Co., Cal., Aug. 28, 1884.

Well, well, this is indeed good news from our friend R. Wilkin. We had some intimation of what they had got in California, this season, but we did not know it went up like the above.

FROM 200 TO 270, AND 40 TONS OF HONEY.

Our honey season has just closed. I have taken from 200 colonies, spring count, forty tons of honey, and increased to 270 stands, and have left them heavy stores for winter. If you have any call for California honey, I should like to supply you.

S. T. MILLER.

Capistrano, Los Angeles Co., Cal., Sept. 1, 1884.

OVERDONE.

The honey crop is a total failure here; 90 old stands in May; now have 110; 50 lbs. comb honey, 400 lbs. extracted, is my crop so far, and there is no prospect for any fall honey. The business is overdone here; too many men in the business.

J. L. GRAY.

Lee Centre, Ill., August 21, 1884.

A FURTHER GOOD REPORT FROM THE NEIGHBORHOOD OF O. M. BLANTON [SEE P. 445].

Mr. R. J. Adams was over here day before yesterday, and informed me he had shipped 30 barrels, besides the 15,000 lbs., and still extracting. He has but little use for uncapping-knife. I write to correct my report of him, if you have not published it. Drought still continues. **O. M. BLANTON.**

Greenville, Miss., Aug. 31, 1884.

FROM 3 TO 20, AND 325 LBS. OF HONEY.

I commenced this season with three swarms—one Italian in frame hive, and two blacks in box hives. These I transferred to frame hives, and Italianized them, and was delayed two weeks in procuring queens. I increased (by dividing) to 20 good colonies, and extracted, July 28th, 325 lbs. of basswood and clover honey.

All the attention my bees had was my spare moments from the shop. **ELIAS FOX.**

Hillsborough, Wis., Aug. 18, 1884.

REPORT FROM ONE OF OUR OLD PUPILS.

There are a few enthusiastic students of your A B C in this place, and pleasant times we have. I have not lost any of my interest in the bees yet. I have had some discouragements, but not more than I expected. Lost my first lot of queens hatched in the spring, owing, I think, to mosquito-hawks. My queen and half-pound of bees have built up from foundation only, till now I have 9 colonies—3 strong, the rest 3-frame nuclei. I have also sold 2 nuclei colonies, and one absconded. Isn't that pretty well for 8 months? We have daily rains. The "partridge" pea has bloomed two months. The bees work mostly on the peas. **NELLIE ADAMS.**

Sorrento, Fla., Aug. 5, 1884.

I increased from 97 to 117, and secured 5000 lbs. of honey. **B. B. WESLEY.**

Lagrange, O., Sept., 1884.

I have 35 swarms, and have now on hand 1000 lbs. of fine section honey. **N. J. KELLY.**

Wayne, Mich., June 30, 1884.

269 LBS. FROM A SINGLE COLONY, BUT NO INCREASE.

Bees are doing first rate in this neighborhood. I have extracted 269 lbs. from my best swarm. No increase with that swarm. **REESE POWELL.**

Mineral Point, Wis., July 24, 1884.

My report for the season is, from 46 colonies, spring count, 5000 lbs. extracted honey; increased to 100; left 2000 lbs. on the hives. Averaging, 108 lbs.; increase, 54 per cent. I am perfectly satisfied.

Luling, Texas, Aug. 18, 1884. **J. S. TADLOCK.**

FROM 25 TO 35, AND 629 LBS. OF HONEY.

My bees have done fairly well this season; have taken 354 1-lb. sections, and 275 lbs. extracted, and increased from 25 to 35. Season closed about July 1. I took my honey from about 15 colonies; ran 4 for extracted. **CHAS. F. RAYMOND.**

Cleveland, O., August 18, 1884.

FROM 6 TO 17, AND 240 LBS. OF COMB HONEY.

I wintered 6 stands over. Four came out nice and strong, and 2 were late swarms, and were weak; increased to 17; made 8 artificial swarms and 3 natural ones; had one swarm on August 20; have 240 1-lb. sections on; and if weather stays good, they will fill them in ten days. **J. M. FLEMING.**

Sarversville, Pa., Aug. 25, 1884.

THE FALL CROP IN ILLINOIS.

Up to the 12th of August I had not taken over 800 or 900 lbs.; but on that date honey began to come in from heart's-ease, and for the last few days I have never seen honey come in faster. Goldenrod is in bloom too, and the bees are working on it freely. If we have favorable weather, and do not have frost too early, we shall secure a good harvest of honey yet. Bees are booming now. **J. A. GREEN**, 118.

Dayton, Ill., Aug. 22, 1884.

$188 FROM 5 COLONIES IN THE SPRING.

March 15, 1884, I had 5 colonies in L. one-story hives; June 15 I had 20 colonies, and extracted 360 lbs. honey. July 15 I cut out 350 lbs. comb honey, leaving enough for bees to winter on—at least 25 lbs. to the hive, and Aug. 1 I sold out for $100 cash. Sold most of my honey for 12½c per lb., or about $188 from 5 colonies in 4½ months—a yield of three colonies to each old colony, and 140 lbs. honey. These are facts by actual weight and dollars.

Hamilton, Texas, Aug. 10, 1884. **J. Q. AYARS.**

FROM 5 TO 8, AND 182½ LBS. OF HONEY.

As the season for surplus honey in this section of the country is over, and in order to keep up the custom of sending in reports, I will make out mine. At the beginning of white-clover bloom I had

Colonies	5
Increased by natural swarming	3
By division	1
Total	9
Took of comb honey, lbs	182½
Unfinished sections in lbs	30
Sold at 20@22c., lbs	152½
Amount realized for honey	$33.54

This I considered net gain, as my four swarms at $5.00 each more than pays all expenses for hives, fdn., feed, etc. **L. GRAY.**

Zanesville, Ohio, Sept. 2, 1884.

REPORTS DISCOURAGING.

BEES have done poorly around here this season. Probably not half as much as last season. Clover dried up prematurely, and basswood did not yield much honey, and it is still very dry, so that fall bloom will not be likely to amount to much. We have had no frosts yet to do any damage, and there is no present indication of any, as the mercury is up in the nineties in the middle of the day. S. H. MALLORY, 50—90.

Decatur, Mich., Sept. 6, 1884.

FROM 7 TO 20, AND NO HONEY TO SPEAK OF.

I had 7 stands last spring, and they have increased to 20, which I think very good, but I am disappointed in the amount of honey — only one stand making any to speak of. HUGH FORDYCE.

Moravia, N. Y., Aug. 16, 1884.

39 COLONIES, AND NO HONEY.

Bees are doing nothing; rain every day nearly, and very cool nights. I work for section honey, but no surplus yet. White clover is nearly all gone. No basswood here, and but little buckwheat. If it keeps on raining a couple of weeks more you will see me in Blasted Hopes, and feeding for winter stores. It is settled now beyond a doubt, that there will be but little honey shipped from this vicinity, as white clover is our chief dependence, and that is about past. I am by no means the only one here minus a honey crop, but I will let you know later how we come out; 39 colonies and no honey! this will show up the "other side" of bee-keeping a little. J. F. BOSSEMEYER.

Dixon, Ill., Aug. 8, 1884.

RECENT DEVELOPMENTS,

And Suggestions and Queries Particularly Pertaining to the Season.

IS THE HONEY FROM MANNA GRASS A NATURAL SECRETION?

[See page 602.]

THE grasses sent me have been carefully studied by use of the microscope. I find no signs of insects. The presence of ergot, a species of fungus, is quite noticeable. This is a black substance, and is said to be so poisonous as to sometimes cause the death of cattle. I also saw another fungus of a reddish orange color, resembling the raspberry fungus. I feel quite certain that either plant or scale lice caused the presence of the nectar. Was not the grass under some lice-inhabited tree or shrub? or may not the lice have been removed in transit? These are points that ought to be considered. That nectar ever falls from the air, or is secreted by plants except as there are special glands for the purpose, has never been shown; that it is often secreted by lice, in so obscure a manner that even the expert scientist may be puzzled to find its origin, is easy to demonstrate. While I can not assert positively that this nectar came from insects, I have no doubt that it did.

Lansing, Mich. A. J. COOK.

EXTRACTING CANDIED HONEY.

In extracting late honey I find much of it sugared in the bottom of the cells, and the extractor will not throw it out. I need the comb to feed sugar for winter. Will you please tell me what I shall do to get it out, I have hunted the A B C, and can find no remedy. A. A. THOMAS.

Lewistown, Pa., Sept. 4, 1884.

Friend T., I do not know how you will throw out *candied* honey. If I were you I would save the combs containing it and use them for building up colonies in the spring, or at some season of the year when the bees would work the candied honey into brood. In former numbers the process has been given of steaming the combs until the steam and heat dissolve the honey sufficiently to allow it to be thrown out. Of course, we must be careful about getting too much heat, or we shall have our combs melted. Hanging the combs, three or four at a time, in the wash-boiler, with the cover on, will answer the purpose, if the caution given above be kept in mind.

A TRAVELING APIARY OF 150 HIVES.

I am now near this place with the "traveling apiary" of 150 colonies. I left St. Charles Aug. 23, and came through with bees O K. Shall be here till the middle of October. M. M. BALDRIDGE.

East St. Louis, Ill., Sept. 3, 1884.

Now, friend B., that is just aggravating. What does it look like? Are they all on one wagon? Do you travel every day? How many tons of honey have you got? What are you going to stay there till October for? Because you know how to stick to a good place when you get it, eh?

A NEW TROUBLE WITH THE BEES.

Bees in this locality have a dreadful malady, and are dying at a fearful rate. They act something as if drunk, fly round and round for a little while, and give up the ghost. Can you tell the cause and remedy? The trouble is wide spread in this locality. This has not been a good season for honey.

J. R. M. ALLEN.

Green Castle, Ind., Sept. 1, 1884.

Friend A., I should think they were getting something that was poisonous to them. Are you sure they have not by accident got hold of any mixture containing cobalt or Paris green, prepared for killing other kinds of insects? If not, I should think they must have been getting honey from some poisonous weed, although we are not yet sure there is any poisonous honey that is poisonous to the bees themselves. Perhaps others can make a suggestion.

SMALL LOCUST-TREES.

I am a beginner with bees (and a woman too); have 16 swarms. I look over my frames every other day, to remove queen-cells. Yesterday I removed five from one frame, all closed up. They were the first I saw in that stand, and to-day they sent out a swarm. Now, how did it happen? I have no A B C to tell me, although I shall get one and make a winter study of it. Please tell me what ails my bees. They are very cross. They have three yellow bands around the body; they do sting beautifully, although I have a good smoker.

In a back number of GLEANINGS I see some one speaks of locust-trees. Yes, I have 10,000 that are from 1 ft. to 10 ft. high, and bushels of pods on them. Who wants some trees or seed? I should like to exchange, or sell trees. They grow 6 ft. in 2½ years. They bloom when 3 or 4 ft. high. I should like to exchange locust seed for sweet clover or figwort, or Simpson honey-plants, or any other honey-plants; or to any one who has nothing to exchange, I will send him some free if he will pay the postage. That is fair. I never saw any of these honey-plants here; so if I could obtain a few seeds I should be thankful for them. As for honey, I have not taken off over 12 lbs. I had 6 good swarms this spring; they have sent out a good many small swarms that I have doubled up. What is the trouble? Who would let me have some alsike clover seed for 50 or 100 locust-trees, from 1 to 3 ft. high, to be taken up this fall?

Mrs. Henry Osborn.

Stoughton, Dane Co., Wis., July 21, 1884.

HILL'S DEVICE.

I see in a bee-convention report that some of the bee-keepers don't like Hill's device as well as openings through the comb, because the bees won't go over the tops of the frames if the weather is cold. I used 40 last winter, and examined them a great many times to find out exactly how they worked, and nearly always found the bees clustered right under the device. When they don't do so I think it is because they have not covering enough on.

PAPER AS A COVERING.

Last winter I tried paper over the frames of at least half of my bees, and found it to answer very well. First, burlap or muslin, then several thicknesses of paper *closely* pressed at the corners. Over the paper of some of them I placed the enameled cloth, to see if the moisture would pass readily through the paper, and I found that it did do so. Paper is used for so many purposes, why not to cover the bees? "They say" that a sheet of paper will keep out as much cold as a blanket. I do not remember ever having seen it mentioned for this purpose, in bee papers. Mrs. M. A. Shepherd.

SOUTHERN-RAISED QUEENS EARLY IN THE SEASON.

In regard to queen-raising, I should like to call your attention to one thing. I think you ought not to be quite so general in your remarks regarding friends in the South. Now, there are many of us who raise queens for Northern markets, and expect still to raise and sell them too. We are also aware that those who send out the best are apt to send the most, necessitating the keeping of the best and purest stock to raise from. Now, when you come out in Gleanings, and say, or imply, that such a large proportion coming from the *South* are hybrids, as on page 534, Aug. No., it will naturally have a tendency to injure our trade in queens. Having in my apiary but 2 or 3 colonies of hybrids, which will be made pure in a few days also, with but few bees for miles around, I think my chances for sending out pure queens stand very fair. I have some very flattering testimonials as to the value of queens sent from my apiary last year, as well as this, which shows there could not have been many hybrids among them. No doubt, friend R., you did not look at it in that light; but, knowing the weight that any thing of the kind would have in Gleanings, one would see these little things sooner than otherwise.

W. J. Ellison.

Stateburg, Sumter Co., S. C., Sept. 3, 1884.

I beg pardon, friend E., if I was too general in my remarks, and perhaps you are right. My attention was first called to the matter by the boys protesting against my buying any more queens. Besides that, no matter where I got them, a great many of them proved to be hybrids, while those reared in our own apiary were, almost without exception, pure Italian every time. Of course, it would not be discovered until after the queens were sold, for we seldom keep them in our own apiary more than a week, and after the brood hatched out we would have hybrids, and the boys were very anxious to have no hybrids in the apiary. It is proper and fitting that we should purchase our queens from the South before they can be profitably raised here in the Northern States. It seems to me we should have more large apiaries down there where drones could be flying in such numbers in March and April that the chances of pure fertilization are as great as with us in June and July. In fact, it seems to me about time that black bees were crowded out of intelligent communities, much as they are in Medina County. Very likely, plenty of you will be able to give us queens that will prove, as a rule, purely fertilized, by another spring.

CONVENTION NOTICES.

The Whiteside Bee-Keepers' Association will meet at Morrison, Ill., at 1 P. M., October 2, 1883. All bee-keepers are cordially invited.

A. B. Kreider, Sec'y.

The Bee-Keepers' Association of Central Illinois hold their next meeting in Bloomington on Wednesday, Oct. 8, 1884, at 10 A. M.

Wm. B. Lawrence, Sec'y.

The Boone County Bee-Keepers' Association will meet in the city of Lebanon, Ind., October 11, 1884. All bee-keepers are cordially invited to attend.

S. H. Lane, Sec'y. Ora Knowlton, Pres.

The second annual meeting of the Pike County Bee-Keepers' Association will meet at the Pittsfield House, Pittsfield, Ill., on Saturday, Oct. 11, at 10 A.M. A cordial invitation is extended to all.

T. C. Bunker, Sec'y.

The Southern Wisconsin Bee-Keepers' Association will hold its next meeting at the court-house in Janesville, Sept. 23, 1884, at 10 A.M. Statistics will be taken. All bee-keepers are cordially invited to attend. C. O. Shannon, Pres.

J. T. Pomeroy, Sec'y.

The next session of the North Am. Bee-Keepers' Association will be held in the city of Rochester, N. Y., the 28th, 29th, and 30th of Oct., 1884. A full programme will be prepared, and a general good time may be expected.

L. L. Langstroth, Pres. C. C. Miller, Sec.

The Northern Indiana and Southern Michigan Bee-Keepers' Association will hold its next meeting at Goshen, Ind., Oct. 3, 1884, at 10 o'clock A. M. Important topics concerning the management of the apiary will be discussed. A portion of time will be devoted to answering questions, from the query-box. Several distinguished bee-keepers are expected to be present. A very full attendance is anticipated. A. Blunt, Pres.

NORTHWESTERN CONVENTION.

The Northwestern Bee-Keepers' Association will hold its fifth annual convention at Owsley's Hall, N. W. corner Roby and West Madison streets, Chicago, Ill., on Wednesday and Thursday, Oct. 15 and 16, 1884, commencing at 10 o'clock A.M. on Wednesday, and holding five sessions.

Those who have attended one of these annual reunions at Chicago will need no urging to induce them to come again; those who have not, should remember that Father Langstroth characterized the last meeting as representing the largest number of large, practical, and successful honey-producers of any convention that he had ever visited. This meeting being held during the Inter-State Industrial Exposition, reduced railroad fares may be had on nearly all the railroads. C. C. Miller, Pres.

W. Z. Hutchinson, Sec'y.

GLEANINGS IN BEE CULTURE.
Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

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For Clubbing Rates, See First Page of Reading Matter.

MEDINA, SEPT. 15, 1884.

And the Lord answered me, and said, Write the vision, and make it plain upon tables, that he may run that readeth it. —HABAKKUK 2: 2.

WITH us, the dry weather is over, for we have had bountiful rains within the past nine days. It is true, that the bees are not booming, but the strawberries *are*. So you see the advantage of having a little variety in our pursuits in life.

KEEPING APIARIES TIDY IN THE FALL.

OUR apiary is now looking nicer, perhaps, than it ever did before. The recent rains have started the grass, and the boys have filled the walks with cinders from the foundry near by. These cinders seem to be proof against grass and weeds; and were they not black instead of white, it seems to me we could hardly get any thing better to spread among the hives to keep down grass and weeds. The iron it contains seems to be death on vegetation.

ENGRAVINGS OF APIARIES.

DEAR FRIENDS, it costs about $50 to get up a good picture of an apiary for the pages of GLEANINGS. Now, I am glad to see the pictures of your apiaries; but, pardon me when I say that it is hardly worth while to go to the expense of making an engraving, unless your apiary shows marked features in neatness or order, system, or something of that sort, that makes a look at it instructive; and even though it should contain all the above essentials, if it is not materially different from the pictures of apiaries we have already had, it will hardly pay me (or our readers) to go to the expense of an engraving.

THE HONEY-YIELD GENERALLY FOR 1884.

WHILE many localities report only half a crop or less, I believe that, as a rule, the yield has been large; at least, nice honey is offered at a lower figure than it has been for many years. We have purchased several large lots of honey, both clover and basswood, for only 7 cents, delivered at that, and I presume we could get much more if we could use it. The large yield of California has probably something to do with it. Even though our profits may be small, there is something of a satisfaction in seeing honey go on to many tables where it has been heretofore too much of a luxury. Very likely, many will give up the business in disgust, on account of low prices. I do not know that this can be avoided, as it occurs in all kinds of business. The shrewd bee-keeper will endeavor to secure a fair crop when people generally get little or nothing, and then he is sure of a good figure for his own crop. Under the circumstances, many times the whole may be sold at from 15 to 20 cents, and at a home market at that. It seems easier to find nice extracted honey at 7 cents, than to get equally good comb honey at about twice that figure. One reason is, I presume, the difficulty of shipping comb honey, compared with extracted.

PORTULACA AS A HONEY-PLANT.

THE children planted a single 5-cent paper of portulaca seed last spring, and from the paper they obtained perhaps 100 plants. The paper was labeled, "Portulaca, double and single, fine mixed." When they got into full bloom I think I never saw a more beautiful and dazzling display of floral beauty than these plants furnished. As they made the ground very rich, I took good care that each plant cover quite a large surface by branching out in every direction. The colors were almost infinite, for scarcely any two were shaded alike. Perhaps portulacas are as beautiful every year, and in other places, as they have been with us; but if so, I have never noticed it before. Well, now, the crowning glory of it is, that during the drought of August and September, these blossoms were fairly teeming with yellow Italians. The hive was one roar of bees before the blossoms opened in the morning, waiting for the coveted sweets; and after they got out, the bees squeezed and crowded each other to see which should get it. Now, while it may not be worth while to raise enough of the plants to get honey in any appreciable quantities, it seems to me it is well worth while for any one who loves bees, to enjoy such a treat as our portulaca flower-garden furnishes daily, where the first cost of the seeds is so insignificant. If I remember correctly, by sheltering the plants from the prevailing winds they will blossom clear into November, and the bees are on hand as long as the blossoms last. Perhaps the seed we have is not different from any other; but if you care to try it we can furnish it to you by mail postpaid for five cents a package.

DIED.

DEATH OF D. S. GIVEN.

Did you know that our old friend, D. S. Given, had gone to "the home beyond the skies"? If I mistake not, he was laid away to rest on the 12th of July. He leaves a wife, and, I believe, two children, who mourn his loss. May God comfort them in their affliction! The last few months of his life were filled with sorrow and suffering. How sad it must be for one to know that he has received his death-warrant, and that he has, at the most, only a few months to live, and is so soon to leave all his dear ones on earth! W. W. BLISS.

Duarte, Los Angeles Co., Cal., Aug. 28, 1884.

Thus passes away another one of our veterans. Many of our subscribers will remember friend Given's articles; and bee-keepers generally will remember him by the Given press, which has been adopted and is in use by many of our foremost bee-keepers. While we mourn his loss, we can yet thank God that he died in full trust of a loving Savior.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

ITALIAN QUEENS, for the next month, for sale at $1.00. MISS NELLIE GOODSPEED,
Box 17. Marietta, Onondaga Co., N. Y.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

APIARY OF 90 COLONIES

For Sale Cheap.

See Gleanings of Aug. 15th.
J. B. COLTON,
17tfdb Waverly, Bremer Co., Iowa.

READ THIS.

I have two of Howard's imported Palestine queens. Warranted queens reared from them, $1.25 each. Tested Syrian or Italian queens, $2.00 each. One copy of the Bee-Keeper's Handy Book, or one of our Drone and Queen Traps given with each queen.
HENRY ALLEY,
17-18d Wenham, Mass.

CHAFF HIVES CHEAP.

I will sell chaff hives all complete—Root's pattern—painted two coats, with brood-frames included, for $2.50; same in flat, $1.50; five per cent discount on orders for 10 or more.

A. F. STAUFFER,
18-21db **Sterling, Whiteside Co., Ill.**

STRAWBERRY PLANTS. The well-known Wilson, and the Crescent for $1 per 100, by mail, postpaid, or $2 per 1000 by express. CHARLES E. PRICE,
18 Smithtown Branch, Suffolk Co., L. I.

FOR RENT.—In Western North Carolina, 800 acres of forest land—the best bee-pasturage in United States; 25 acres in clover and timothy. Small house and barn near a northern settlement and village. The finest climate for an invalid in winter or summer.
H. STEWART,
17-tfdb. Hackensack, N. J.

Italian Queens!

Tested, $2.00; untested, $1.00; raised from imported mothers.
AMOS BLANK,
13tfdb. Woodville, Sandusky Co., Ohio.

DURING AUGUST AND SEPTEMBER I will furnish pure tested **CYPRIAN** **$2** **QUEENS**
For $2.00. Absolutely Pure. Address
B. F. CARROLL, - Dresden, Navarro Co., - TEXAS.
[Safe arrival and satisfaction guaranteed.] 15tfdb

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfdb JNO. VANDERVORT, Laceyville, Pa.

DO YOU WANT TO BUY BEES?

I will sell to any person wishing to buy bees, from one to 60 colonies of black, hybrid, and Italian Bees. I will not be undersold. Test my prices; blacks: One Langstroth hive, $4; two, $7; three, $9; five, $11; or ten, $20.

Hybrids: One Langstroth hive, $5; two, $9; three, $10; five, $12; or ten, $22.

Italians: One Langstroth hive, $6; two, $11; three, $12; five, $15; or ten, $25. Queens are all good. These prices run only for September and October.

G. W. ALBRECHT,
17-20db **Dundas, Calumet Co., Wis.**

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

Is now making a specialty of rearing fine Italian queens. All queens bred from the purest and best of mothers, and the cells built in full colonies. Single queen, $1.00; six queens $5.00; twelve or more 75 cts. each. Tested queens $1.50 each. Make money orders payable at Flint, Mich. 15-tfdb.

He has a large stock of queens on hand, and can fill orders by *return mail.*

50 COLONIES OF ITALIAN and HOLY-LAND BEES

In Simplicity Hives

FOR SALE CHEAP

DURING THE MONTHS OF AUGUST AND SEPTEMBER. ADDRESS

JOHN HARDLEY, 175 Wellington St., Stratford, Ontario, Canada.
16-17-18d

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any late number of Gleanings previous to May 15. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the, and, that, ing, tion,* etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb. A. I. ROOT, Medina, Ohio.

LOOK HERE!

25 Fine select Plymouth-Rock cockerels for sale, at $1.00 each.
18d **M. W. SHEPERD, Rochester, O.**

WANTED.

To correspond with a married man who can keep bees, and wants employment in Texas. Address
J. M. KILLAUGH, San Marcos, Hays Co., Tex.
18-19d

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

COMB FOUNDATION MACHINES

$10.00 TO $50.00.

SAMPLES OF FOUNDATION FREE, OR WITH OUR ONE-POUND SECTION BOX BY MAIL FOR FIVE CENTS.

For illustration see our Illustrated Catalogue of Apiarian Implements and Supplies, mailed on application.

A. I. ROOT, Medina, O.

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Bee-Hives AND Sections!

NEW SHOP AND NEW MACHINERY.

The Largest Manufacturer of Bee-Hives, Sections, etc., in the World.

Our Capacity now is a Carload of Goods Daily.

DECIDED.

The courts have decided the patent on the One-Piece Section to be *null* and *void*, for want of novelty. We are now manufacturing them again as first placed on the market by Lewis & Parks. A discount of 5 per cent on all goods ordered before Jan. 1, 1885.

G. B. LEWIS,
19tfd WATERTOWN, - WISCONSIN.

CHOICE PLANTS.

STRAWBERRIES.—Crescent, Seth Boyden, Capt. Jack, or Kentucky, 25 plants for 50c; 100 for $1.25.

CURRANT BUSHES.—Cherry, White Grape or Black Naples, 50c a dozen. Golden-Cluster Raspberry, $1.00 a dozen. All sent by mail, carefully packed and postpaid. Address **A. T. COOK,**
10 Clinton Hollow, Dutchess Co., N. Y.

UNTESTED ITALIAN QUEENS,

75c each, until I close out my season's stock.

J. P. MOORE,
19d Morgan, Pendleton Co., Ky.

RIFLE FOR SALE.—A fine breech-loading "*Maynard*" rifle, "*model of 1882*," 40 cal., 30-in. bbl., with fine graduated globe and peep sights, and full set of loading tools. All complete, warranted in perfect condition.
19 CHAS J. GOODRICH, Lebanon Springs, Col. Co., N. Y.

---

150 Colonies of ITALIAN BEES FOR SALE.

They are in Langstroth portico-hives, with standard L. frames. All in first-class condition, with from 20 to 30 pounds of good honey for winter. The combs are all straight and all worker, and are mostly built on wired frames. In lots of 1 to 10 at $4.50 each; 10 to 25 at $4.25 each; 50 or more, at $4.00 each.

G. H. SHIBLEY,
19d Richmond, McHenry Co., Ill.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column, 3btfd

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Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2.00 per year.

Those whose names appear below agree to furnish Italian queens for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A.I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 13tf
*Paul L. Viallon, Bayou Goula, La. 13tfd
*S. F. Newman, Norwalk, Huron Co., O. 13tfd
*Wm. Ballantine, Sago, Musk. Co., O. 13tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 15tfd
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3
*S. G. Wood, Birmingham, Jeff. Co., Ala. 13tfd
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5
*S. C. Perry, Portland, Ionia Co., Mich. 15tfd
C. Weeks, Clifton, Wayne Co., Tenn. 9-19
Will True, Chadwell, Clatsop Co., Oregon. 9-7
Theo. G. M'Gaw, Monmouth, Warren Co., Ill. 11-21
*B. W. Harrington, St. Catherines, Ont., Can. 13-23.
Jas. O. Tracey, New Hamburg, Ont., Can. 13tfd.
Miss Nellie Goodspeed, Marietta, Onon. Co., N.Y. 19
*J. W. Keeran, 106 Wash. St., Bloomington, McLean Co., Ill. 19

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 13tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
C. P. Bish, Petrolia, Butler Co., Pa. 9-23

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher priced ones.

I have a few hybrid queens left which I will sell for 30c each. These are young queens.
L. HEINE, Bellmore, Queens Co., N. Y.

OF THE BEST.

10 tested Italian queens, to be mailed by Oct. 15; $1.90 each, reared from selected imported mother, which is very yellow; also her progeny. Special offer for early dollar queens next spring, if engaged now, also tested. IRA D. ALDERMAN,
19d Clinton, Sampson Co., N. C.

FOR SALE CHEAP.

HAND-RAISED MALE MOCKING-BIRDS.

If you want a good mocker at a reasonable price, address W. D. BALL,
19-20d Columbia City, Whitley Co., Ind.

HONEY COLUMN.

CITY MARKETS.

KANSAS CITY.—*Honey.*—Market for comb honey active and lower. Demand good, but fully supplied. Choice comb, in small fancy crates, selling in round lots at 15c for 2-lb. sections, 16 for 1-lb., and 18@19c for ½-lbs. The latter were pretty well cleaned up the last week, and were wanted. Extracted in fair demand at very low prices, 6½@7¼c.—*Beeswax*, none in market.

We will buy 3000 to 5000 lbs. choice white-clover extracted honey in barrels at a reasonable price. Ship a sample keg or barrel, and name bottom price, cash, delivered here.

CLEMONS, CLOON & CO.,
Sept. 25, 1884. 514 Walnut St., K. C.

☞ Having consolidated my business with the old and solid Commission House of Clemons, Cloon & Co., under the same firm name, we are better prepared than ever to handle honey in all shapes. We are in the market at all times for the purchase of honey in any shape or quantity, and will pay the highest market price, or will handle it on commission, as may be preferred. Ship 100 lbs. or so, enough to fairly represent what you have, and we will make prompt cash offer for the lot. We will also take special pains with orders from bee-men for any particular kind of honey which they may want to complete their orders when their own crops are exhausted, and will try at all times to faithfully represent their interests. JEROME TWICHELL.

CINCINNATI.—*Honey.*—Extracted honey has commenced to accumulate, as it generally does at this season, and I wish you would tell our friends not to make any shipments to us unless previous arrangements are made for its purchase and time of shipment. We had, one day last fall, no less than 600 bbls. of honey on hand. We were overstocked, and don't wish to have the same occur again this year.

There has been nothing stirring in the honey market for the last few weeks. The approach of cooler weather is expected to impart more life to the trade. Comb honey sells at 16c in the jobbing way, and brings 14@15c on arrival for choice. We have no use for dark comb honey in this market. Offerings of comb honey exceed the demand. There is a fair demand for extracted honey in small packages, for table use, as well as for darker grades in barrels. It brings 6@9c on arrival.

CHAS. F. MUTH,
S. E. Cor. Freeman and Central Avenues,
Sept. 16, 1884. Cincinnati, O.

CHICAGO.—*Honey.*—Demand improved of late for a choice article of comb honey. Prices 14@15c for choice, or selections in good style of case. Extracted, dull, 7@8c in small way. *Beeswax*, 30c for best lots, fair offerings. California has sent two cars of honey here.

R. A. BURNETT,
Sept. 15, 1884. 161 S. Water St., Chicago, Ill.

CLEVELAND.—*Honey.*—The honey market has been quite inactive for several weeks; very little is moving, and 16c seems to be the outside that can be obtained for the best 1-lb. sections. Second quality continues unsalable at any fair price; 2-lb. sections, slowest, 14@15c. For extracted, there is no call whatever. *Beeswax*, 28@30c.

A. C. KENDEL,
Sept. 22, 1884. 115 Ontario St., Cleveland, O.

ST. LOUIS.—*Honey.*—Extracted honey dull. Southern, worth in barrels from 5½@6c; in kegs, 7c. White-clover honey scarce—none in barrels. In cans, sells at retail from 10@12c. Comb honey, dark to fair, 10@14c. White-clover, 20c in 1-lb. sections. *Beeswax* is now scarce in this market; worth 28@30c.

W. T. ANDERSON & CO.,
Sept. 25, 1884. 104 N. Third St., St. Louis, Mo.

DETROIT.—*Honey.*—The honey market is still quiet. A good article is offered at 14@15c.

Sept. 23, 1884. A. B. WEED, Detroit, Mich.

BOSTON.—*Honey.*—Best white 1-lb. sections, 20c; 2 lbs., 18c. Extracted, 8@9c. *Beeswax*, 35c.

BLAKE & RIPLEY,
Sept. 22, 1884. 57 Chatham St., Boston, Mass.

HONEY-DEW HONEY FOR SALE.—I have 4 bbls. of honey-dew honey. It is very thick and well ripened—some clover honey in it. Would be good for spring feeding; is put up in good nearly new iron-bound barrels, and waxed. I will deliver the lot on board the cars at Oberlin at 4c per lb. Who wants it? CHALON FOWLS, Oberlin, O.

[Well done, friend F. I am glad to see you come out and fix a price on the product. I have tasted a sample of the honey mentioned above, and it is not so very bad, after all. We have a few customers who say they like the flavor of it, and possibly it may find sale at a tolerably fair price when people get used to it, although I confess I hope we shall never have another season when it is mixed right in with our good honey as it has been this year.]

FOR SALE.—1000 lbs. extracted clover honey, in 10-gallon kegs, at 9½c. Sample, 5c.

M. ISBELL, Norwich, Chenango Co., N. Y.

FOR SALE.—7000 lbs. comb honey. What do I hear for it? 4000 1-lb. combs, the rest 2-lb. combs, two-thirds white, and very nice.

C. J. HAIGHT, Rush, Susq. Co., Pa.

NOTES FROM THE BRIGHT-BAND APIARY ABOUT THE COMING BEE.

KIND FRIENDS, I am glad to state that I never sold queens that gave as much satisfaction as does the cross between Italians, Cyprians, and Holy-Lands. They are undoubtedly less apt to sting than any race of bees; and for honey, I shall not hesitate for a moment to state that they beat them all; and for beauty, I only ask you to send two letter stamps for a sample of live workers, and see for yourself. I can also furnish the very best queens, raised from imported Italians, to those who prefer them. Price of either race, untested, but laying, 90 cts. each. Tested, $1.50 each. Full instructions sent with each queen, and safe arrival guaranteed.

Who will send $50 for 100 untested queens, and give me 30 days in which to fill the order? Or who will send me $30 for 50 on same terms? I would most probably begin to send some on receipt of order. All over two orders for 100 will be returned.

CHAS. KINGSLEY,
15-tfdb. Benton, Bossier Co., La.

P. S.—There is no foul brood in this State, that I know of.

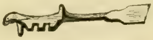
Boiler for Sale.

We offer the steam-boiler we have had in use for sale. It has a 48-inch shell, is 12 feet long, containing 48 three-inch flues. The boiler has been in use about six years; but new flues were put in last Christmas, so that it is virtually almost as good as new. It has never been injured in any manner whatever. The only reason why we wish to dispose of it is, that we are putting in a larger one, for the increased demand of our work. We know exactly what a new one like this can be bought for, for we obtained very close figures for putting in another like it, instead of one large one. Such a boiler new, including front grates, etc., will cost at the boiler-shops, $475. We offer this just as it is for $225, and warrant it perfect in every respect.

A. I. ROOT, Medina, Ohio.

Combined Putty-Knife and Glass-Cutter.

Every bee-keeper wants a glass-cutter, as a matter of course. The pattern shown below seems to find considerable favor:



We introduced this about a year ago, and the sales are quite large. We have never had a complaint of one of them, that I know of. Price 5c; if wanted by mail, send three cents for postage.

A. I. ROOT, Medina, Ohio.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES, HONEY & HOME INTERESTS.

Vol. XII. **OCT. 1, 1884.** **No. 19**

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

NOTES FROM THE BANNER APIARY.

Or, to be More Correct, I will Say,

NOTES FROM THE STATE FAIR.

IT is eight o'clock P. M., and I am in my room in the third story of a hotel in Flint, Mich. I am on my way home from making an apiarian exhibit at our State Fair. I am very tired and sleepy, and the bed looks *so* tempting! but, the Northeastern Michigan Fair begins here to-morrow, and a drayman is engaged to take my "traps and calamities" to the grounds *early* in the morning, and, if I tell you any thing about the apiarian exhibition at the State Fair, I must do it to-night or it will not reach you in time for the October No.

The building, if I remember rightly, was 28 x 48, with raised platforms 7 feet wide at the sides and ends, and a table four feet wide in the center. The building was *literally* filled to overflowing, for Geo. K. Hubbard, the patent-hive man, built a neat little "shed" outside in which to exhibit his hive, nuclei, and fancifully built specimens of honey. He was the last exhibitor to arrive, and every available foot of space was taken. Prof. Cook pronounced the exhibition the largest and finest he had ever seen in the United States. Entering the building at the Northeast corner, the first exhibition is that of Mr. H. D. Cutting, consisting of his hive, a show-case of books (81 volumes), a Langstroth hive, the side walls of which were constructed of straw held in an upright position by wires, something as are the slatted or wooden honey-boards or mats sold by friend Root. The side walls were perhaps an inch and a half thick. He also had some other implements, such as queen-cages, honey-knives, bee-feeders, section boxes, smokers, etc. He had samples of 15 different kinds of honey, upon which he secured first premiums, outnumbering Mr. M. H. Hunt by one or two specimens. In his usual unselfish manner he did not make a very large exhibit, not caring so much to secure a large amount of premiums as to make a success of the *whole* exhibition. He is always on hand to help *somebody*. (Oh! I tell you, friends, dame Nature is asserting herself, and I *must* go to bed; but I'll be up at daybreak, or before, and tell you all about it).

I have just dressed myself, and it's six o'clock, and what I write must be written hurriedly. The next exhibitor after Mr. Cutting was E. E. Mason, son of Dr. A. B. Mason, of Wagon Works, O. He exhibited a Given press and a Vandervort machine; and I must say that the Vandervort makes the best fdn. of any roller machine I have ever seen. The wall space above the exhibits of Messrs. Cutting and Mason was occupied by C. M. Weed, who exhibited between fifty and sixty fine specimens of honey-producing plants, pressed and mounted. Mr. Weed possesses, in a high degree, the skill required for preparing botanical as well as entomological specimens.

The first exhibitor at the east end of the south side of the hall was Dr. Besse, of Delaware, Ohio. His exhibit consisted of a display of both comb and extracted honey, a Root fdn. mill, a one-frame nucleus, collections of queens, queen-eggs, honey-knife, etc. The remainder of the south side was occupied by my brother and myself.

My brother's exhibit consisted of a speciman of comb honey, a display of four colonies of different varieties of bees, a collection of queen-bees, and a collection of 67 varieties of honey-producing plants, pressed and mounted. My own exhibit consisted of a display of 3500 lbs. of comb honey, piled up in a pyramidal form until it reached the roof. At each end of the pyramid, tacked to the wall, and thus forming a background, was my display of honey-producing plants, 77 in number. My display of extracted honey was very meager, only a small pyramid of different-sized pails filled with candied honey. My specimen of 20 lbs. of comb honey was shown the same as last year, in the glass case lettered "Gilt-Edge Honey." My beeswax was in the same shape as last year. My collection of literature, 79 volumes, was shown in a glass case which was lettered "Apicultural Literature," and below the lettering was a large queen-bee in gilt. Mr. Cutting outnumbered me two volumes. My display of full colonies of different varieties of bees numbered five colonies. Of bee-keeping implements I had 80, but I believe Mr. Hunt outnumbered me by about 20.

The west end of the hall was entirely occupied by a magnificent display of comb honey from the apiary of R. L. Taylor, Lapeer, Mich. Beginning about two feet from the floor, the honey was piled up until it reached the *peak* of the roof, lacking about two feet. For a background, Mr. T. used a light-red paper cambric. There were more than 4000 lbs. of honey in this exhibit, and, to my mind, this display was the most striking and grand of any thing in the building. Mr. Taylor received the first premium upon this display, also upon the specimens of the best 20 lbs., while I received second premium upon the same articles.

Please allow me to digress long enough to say, that Mr. Taylor's honey, as well as my own, was raised without separators. Mr. Taylor also exhibited a colony of Italian bees which was awarded first premium. His Given press made the best fdn. made on the grounds. His bar-piercer was awarded second premium, while Mr. Hunt was given the first. Mr. M. H. Hunt's display occupied the entire north side of the building. Mr. Hunt makes a specialty, I believe, of extracted honey, and his display in this line was certainly fine. The honey was put up in glass bottles of different styles, glass jars, tin cans, pails, jugs, etc., all of which was artistically arranged upon pyramidal stands. His honey-cases were blue, his honey-stands were blue, his exhibition hives (and he had some nice ones) were blue, his table, or counter on which he placed his exhibits, was covered with blue cloth, and his background was just the same; but when he suspended long strips of bright yellow foundation against the background, between the pyramids of honey, it relieved the monotony wonderfully. Mr. H. had on exhibition one strip of fdn. 50 feet long; but, perhaps, the crowning feature of his exhibit was a monument of wax nearly four feet high. The base was 17½ inches square, and, upon one side, in raised letters, was the word HUBER. The whole monument weighed nearly 200 lbs. Bee-keepers pronounced it the finest piece of waxwork they had ever seen, while people who were not bee-keepers would occasionally call it *soap*. The table in the center of the building was occupied by a miscellaneous collection. A Mr. Quick showed a bee-hive, samples of comb and extracted honey, also a fine display of the Van Deusen flat-bottomed fdn. Mr. O. H. Townsend exhibited a bee-hive, a case of comb honey, and made a really nice little display of extracted.

In all, there were 150 entries, and the goods on exhibition were valued at $2000 or thereabouts.

One afternoon, in our tent back of the hall, there was held a very *un*conventional bee-keepers' convention, at which there were present Prof. Cook, James Heddon, T. F. Bingham, M. H. Hunt, Dr. A. B. Mason, R. L. Taylor, H. D. Burrell, Mr. Heddon's foreman, Mr. Stolley, Mr. Drew, Mr. H. D. Cutting, and myself. I think there were a few others present, but I do not recall their names now. The "pollen theory," and depth of frames, were the principal topics discussed, but I have not time to give the discussion. **W. Z. Hutchinson.**

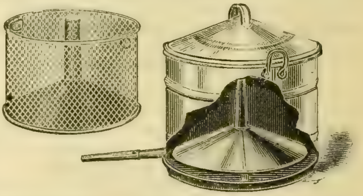
Rogersville, Genesee Co., Mich.

Thank you, friend H., for posting us as to what is going on in your State, even if we can not be present personally. I am very glad indeed to know you have such zealous and successful workers in Michigan. If I am not much mistaken, some of our readers will feel as I do, after reading your description, that they are sorry they were not there too.

RECENT IMPROVEMENTS IN IMPLEMENTS FOR THE APIARY.

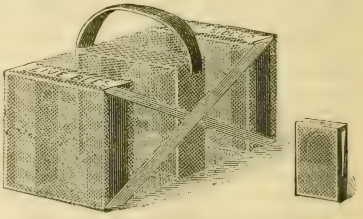
ILLUSTRATED WITH PICTURES.

DURING Ernest's vacation, he and Mr. Gray have been busying themselves in remodeling and improving our price list; and to do this, a good many new cuts had to be made. Below we give you a look at some of them:



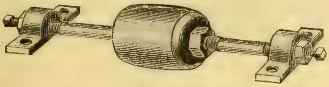
IMPROVEMENT IN THE SWISS WAX-EXTRACTOR.

Our friends will notice that we have adopted the feature of friend Jones's invention, that sends the hot steam up through the center of the melted combs. In fact, it is so nearly a Jones wax-extractor, as figured above, that we are inclined to think it will answer every purpose, while the price is about $1.00 less.



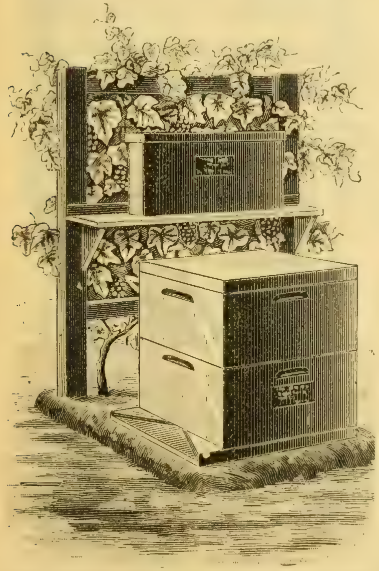
CAGE FOR SHIPPING ONE POUND OF BEES.

Since it has been fully demonstrated that queens can be sent even across the ocean without any water-bottles, we now make our cages for bees something on the same style. The block containing the candy can be seen through the wire cloth. The above cut shows our cage just as it is made at the present writing, and our losses during the past season have been very few indeed — especially where no more than 1 lb. of bees was put in a package. When we have attempted to send 2 lbs. or more in one cage, we have had more or less difficulty, so that we have rather decided on putting them on combs in a nucleus hive where more than 1 lb. has to be shipped.



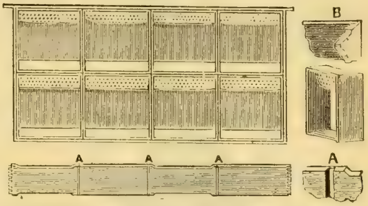
OUR $2.50 MANDREL FOR FOOT-POWER SAWS.

Instead of making the pulley on the mandrel, and then a collar to hold the saw, we now have it so arranged that the saw is clamped directly against the end of the pulley, as is shown above, making the mandrel lighter and stronger, and more easily made.



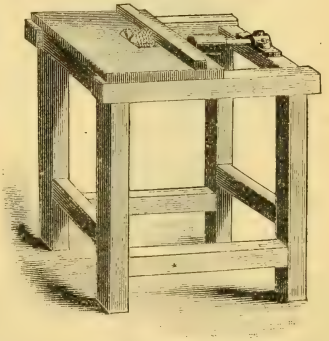
SIMPLICITY BEE-HIVE, JUST AS IT LOOKS IN THE APIARY.

Ernest is so strongly in favor of having all Simplicity hives have an entrance-board like the one shown in the cut above, that we have had an engraving made, specially to show it as it is used. No better device has ever yet been discovered for enlarging and contracting the entrance, if I am not mistaken. These entrances can be attached to any hive with movable bottom — even box hives, and yet the price is only 10 cts. each, or $8.00 per hundred, made of good lumber, nicely painted. The cut represents a very convenient way of using hives for queen-rearing, especially where your yard for bees is somewhat crowded. The entrance to the nucleus hives should be on the opposite end from that of the large hive below. The Simplicity hive makes a very convenient seat when you are opening and examining nuclei. A Concord can be easily trained to give about the appearance of the one pictured, and the grapes as well as the foliage ought to be there during the proper season.



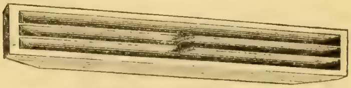
THE ONE-PIECE SECTION, AND THE WAY IT IS PUT TOGETHER AND PLACED IN THE WIDE FRAMES.

The above is so well known, the picture scarce needs an explanation.



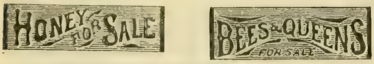
MACHINE FOR MAKING ONE-PIECE SECTIONS.

Since no one, however timid, need be any longer frightened by a bugbear in the shape of a patent on the one-piece sections, we shall probably sell a great number of the machines pictured above. The whole machine complete, nicely painted, with 9 saws, capable of making sections 2 inches wide, is only $30.00, and a discount of 10 per cent will be made on all orders received this fall. This same discount will apply to the machine for scoring sections.



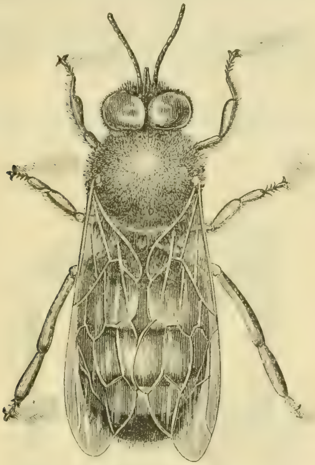
SIMPLICITY BEE-FEEDER.

Our customers may, perhaps, be aware that the Simplicity bee-feeders as we now send them out are not exactly as illustrated in our price list. The above cut, however, shows it exactly as made at present. They hold just about half a pint each, and, if I am correct; no better feeder has ever been devised, especially for so small an amount of money. They are 5 cts. each, or only 4 cts. each by the hundred. Of course, special machinery has to be employed to make them at this price.



OUR SIGN-BOARDS FOR BEE-KEEPERS.

Those we have been sending out are not just what they ought to have been; but during the present dull season we are trying to get up some that none of our friends will be ashamed of.

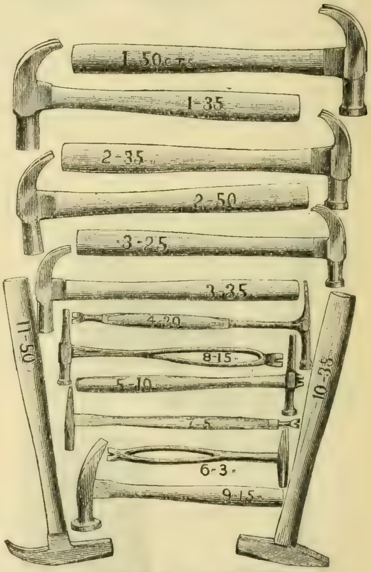


DRONE-BEE.

Some time ago I told you we had no picture of a drone that pleased me. At that time a good friend, whose name by some means we lost, sent us several photographs of drones, taken from life. From these our artist made the picture above, which we call very satisfactory. If the friend who sent the photograph will stand up and speak, we shall be glad to pay him for his trouble; and if any of the rest of you think his droneship is not just as it ought to be, we should like to have you also stand up and speak.

THE HAMMERS WE SELL.

Improved methods for converting iron into steel, and of working steel, have made a wonderful reduction in the price of hammers. In the cut below, the first figure refers to the manufacturer's number. Thus, No. 1 means an ordinary-sized carpenter's hammer; No. 2 means a size smaller, and No. 3 two sizes smaller, No. 3 being only half the weight of No. 1. The No. 1 hammer, handle and all, usually weighs about 20 oz. We are now enabled to furnish No. 1 with the bell face for an even half-dollar, and the hammer is in every respect equal to those that used to sell for $1.50 and $2.00. Our prices are perhaps lower than they are ordinarily sold, because we buy in unusually large quantities. It is not an uncommon thing for us to give the manufacturers an order for over 1000 hammers of a single size, and we often let them make them during dull seasons, when they figure them very low to avoid stopping their hands and machinery. I told you the first figure refers to the manufacturer's number. Well, the figures after the dash are the price. For instance, No. 1 hammer, plain adze-eye, is 35 cts. The finish of this hammer, however, is not quite equal to the plain adze-eye No. 2. This hammer weighs exactly 1 lb., handle and all, and the price is 50 cts. It is probably more used than any other hammer in the catalogue, being just about what is needed for ordinary bee-hive work. If you are going to drive spikes or large nails, for instance in framing, you would want to lay down your No. 2 hammer and take a No. 1. The hammer above this, No. 2, bell face, is only 35 cts. The price is thus low on these because I happened to find a large lot of them that I could buy low. The weight of this hammer is 1 lb. The same is the case with No. 3 hammer, price only 25 cts. This hammer weighs exactly 10 oz., and during the past year has sold beyond any thing we ever had in the line of hammers, for it is a nicely finished solid steel hammer with a first-class hickory handle, and all for an even 25 cts. The one below it, No. 3, plain adze-eye, is 35 cts. These are staple goods, and this hammer is a great favorite for honey-boxes, brood-frames, and the like. This weighs 10 oz. At the left of the picture, a farrier's, or horse-shoer's hammer is shown. This weighs 13 oz., and the price is 50 cts.



HAMMERS FOR BEE-KEEPERS.

At the right of the picture is a riveting-hammer, used by machinists and metal-workers; also a good deal by tinners. It weighs 14 oz., and the price is 35 cts., as shown. No. 4 is a very handy tack-hammer, inlaid with blackwalnut; price 20 cents.; weight 6 oz. No. 8 is a magnetic tack-hammer, all-metal handle; price 15 cts. It weighs 6 oz. No. 5 is the same with a wooden handle; price 15 cts. Its weight is 4 oz. These magnetic hammers are especially handy for driving tacks and small wire nails. No bee-keeper can afford to be without them. No. 7 is our five-cent tack-hammer, weight 3 oz. One might almost think that 5 cents was low enough; but in No. 6 we have a hammer that costs only 3 cts., and they are sold by the thousands. They weigh 5 oz. The price is so low you can afford one for each of the children to crack nuts with; and if they lose them in the grass you can buy another cheaper than to hunt for it. No. 9 is our 15-cent shoe-hammer. It has a broad round face, you know, and when anybody has trouble by not being able to hit the nail, just give him this, for he could not very well miss it, even if he should try. I believe the women-folks have a sort of preference for the shoe-hammer. It weighs 12 oz.

Now, if you had one each of all the above hammers, and had a place so that each one could be put in its place, you would be likely to find yourself pretty well supplied, and you could then pick out a hammer according to the work you wanted to do. We can send you one of each kind right through for an even $5.00. For prices of these hammers by the quantity, and also for the amount of postage needed to send them by mail, see prices in the counter-store list, in our regular price list.

As I have no more pictures, I think I will not talk any further just at present.

THE ROBBER-FLIES OF THE SOUTH.

MALLOPHORA ORCINA.

INCLOSED you will find an insect that catches bees; at least I have seen them with bees on their bills many a time, and also seen one catch a bee that was heavily laden with buckwheat honey. He stuck his bill through the bee, and I think it was dead by the time it struck the ground. I do not know the name of this little Turk; but, fortunately for the bee-keepers, they are not very numerous here. I have not only seen them catching honey-bees, but I saw one catch a bumble-bee, and kill it in an instant.

Sparta, Tenn., Aug. 28, 1884. D. ENGLAND, JR.

Prof. Cook says:

The insect is one of the common robber-flies of the South. It is the *Mallophora orcina*, described in my Manual, p. 320. The *Asilidæ*, to which family this fly belongs, are very predaceous. There are two types of these fierce robber-flies. One class, like the Missouri bee-killer, are long, black, and exceedingly strong and brave. These are illustrated on pages 317 and 318 of my Manual. The other type are very hairy, yellow, and are easily mistaken for bumble-bees. They are hardly less fierce than the others. To this type belongs the yellow fly sent by Mr. England. I question if these flies are ever numerous enough to be a serious pest in the apiary, while in killing injurious insects they may do great good.

Lansing, Mich., Sept., 1884. A. J. COOK.

I suppose the reason these are called flies instead of bumble-bees is because they have no sting; but from the looks of them I should be inclined to call them a sort of bumble-bee. Am I correct in concluding that bees with no stings are classed as flies? If he can put his beak through a bee, as friend E. states, I should think the beak was pretty nearly as bad as a sting.

MRS. L. HARRISON ALSO GIVES US A RATHER DISCOURAGING REPORT.

CULTIVATING A HONEY MARKET RATHER THAN A HONEY FARM.

As far as I am able to learn, the honey crop in this locality has been almost a failure. A groceryman told me lately that bee-keepers who had furnished him other years with hundreds of pounds of honey tell him that they can not supply him with a pound. These bee-keepers live about twenty miles from the river. Apiaries located within range of the river bottoms report nearly half of an average crop. Notwithstanding this partial failure in the honey crop, choice white clover in pound sections is retailing at 15 cts. per pound. One reason for the low price at present is, that many persons coming to the fair brought a few hundred pounds with them, and forced it upon the market, selling it for whatever they could get. Produce of various kinds is low, and the price of honey will have to be in the ratio of other sweets.

You say, "It seems easier to find extracted honey at 7 cents than to get equally good comb honey at about twice that figure." I produce only a limited quantity of extracted honey, for the reason that it takes more strength than it does to secure it in comb. What I produce I sell at the same price as comb, and many persons think it ought to bring more, because wax doesn't digest, and there is none in it. Grocerymen in this city of forty thousand inhabitants have shown me tin pails of honey that they had had for three years, and it had never been called for. Extracted honey is a stranger; and when it is introduced it meets with a cordial welcome.

Mr. Muth says that at one time last fall he had 600 bbls. of extracted honey. Now, this honey, before it reaches the consumer (except in low grades used in manufacturing), has as much labor expended upon it in Cincinnati as it had in the apiary where it was produced. When I was at Cincinnati, Mrs. Muth told me that she was going to cook four barrels of honey the next day. The granulated honey was dug out of the barrels, and put into buckets in which it was melted. Mrs. Muth said, "I skim the honey as long as any scum rises, and then it is poured into a tank." From this tank I saw how it was drawn out into bottles, corked, tinfoiled, labeled, and then packed into boxes, which were also nicely labeled, ready for shipment. I've no doubt that honey put up by Mr. Muth is sent back to the locality where it was produced, and sold to dealers.

Talk about raising a crop for honey! Better cultivate a *market*. Choice white clover a begging at 7 cts. a pound! Give it an introduction to every table in your neighborhood, and it will soon be known and respected.

A farmer who produces extracted honey, and lives five miles from any town, told me that he could not supply the demand in his own neighborhood. By the way, his wife was a good talker. Mr. Simpson (who brought figwort into notice as a honey-plant) used to sell a barrel of extracted honey in a day, by selling it by the gallon, from his wagon. Bee-keepers blamed him for it; said he "sold it too cheaply." Others said he did right; sold it, got his money for it. If he had shipped it by rail it would have been knocked around, and been leaking, and the barrel would have arrived at the place of destination, and the honey fed the bees for a thousand miles. Plant all the Simpson honey-plants you want to; but cultivate best a honey market.

Peoria, Ill. MRS. L. HARRISON.

At the present writing, Mrs. H., I do not know of any nice honey offered for 7 cts. Since my notice it seems to have been all taken up. I presume one great reason for the low price is, that sugar is so very low—in fact, lower than it ever was before, so I have been told.—I know that grocers often have honey two or three years uncalled for, and there are a good many things in *our* lunch-room that would never be called for if they were kept under the counters all the while, and no mention made of them. In localities where extracted honey has never been introduced, people never call for it, because they do not know there is such a thing. One great reason why so many fail in the grocery business, as well as other kinds of mercantile occupations, is because they can not talk and make known to the customers they do have what they have got for sale. It takes a man who loves his business, to succeed in selling groceries, exactly as it does to succeed in keeping bees, or any thing else, for that matter.

SOMETHING ABOUT EXTRACTORS.

ARE THERE EXTRACTORS IN USE THAT WILL EXTRACT ALL THE HONEY LATE IN THE FALL?

HAS the need of a cover for your extractor never been presented to you? I was on the point of replacing my extractor with one having a cover, because of the disagreeable habit which the "Novice" has of throwing the honey out at the top of the can. Before doing so, however, I thought I would see if I could not remedy the evil at a less expense. I had a circular piece of tin cut the size of the extractor top, from which a circle four inches in diameter was cut. An embossed handle was added, and one side of the cover was made to conform to the curve of the arm of the extractor. It is a complete success. No more streams of honey running down my honey-house wall; no more beads of honey standing out like sweat on my face, or glistening like dew in my hair.

And now there is another defect in my extractor, which seriously interferes with my peace of mind. I can not get it to throw the honey from the comb as clean as I would like. Mr. Heddon claims that a good extractor will throw the honey out clean. I could well afford to pay $50.00 for such an extractor. I have weighed combs as they came from the extractor, and re-weighed them after the bees had cleaned them out, and I find that the combs will average a pound of honey as they come from the extractor. This is a matter of considerable importance where the bee-keeper's store combs run up into the thousands; 2000 combs represent a ton of honey, which a man may reckon into his crop if he wants to make it as large as possible, but not into his income.

Perhaps you will say, give the combs back to the bees, and let them clean them out. This is impractical after the honey season has closed. I have tried it, and I shall not try it soon again. I have sent an order to Mr. Heddon for an extractor which will throw the honey out clean. JAMES MCNEILL.

Hudson, N. Y., Aug. 11, 1884.

Friend M., we have never made a cover such as you describe, for we never expect to furnish anybody with an extractor that throws over the top of the can. In your case your combs are revolved too near the upper edge of the can that holds them. Another thing, where the combs run within half an inch of this upper edge, and give no trouble during the honey season, if you attempt to extract very old and thick honey, such as will be found in the combs in the fall, it will sometimes fly over, because so much more speed is required to get the honey out, and I think this is why you found a whole pound of honey remaining in the comb. I should say, without making any experiment, that any good extractor should take out all the honey except about a quarter of a pound, or thereabouts. This adheres by capillary attraction, and I do not believe an extractor can be made that will take it *all* out. Where the honey is very old and thick, as mentioned above, of course more will remain sticking to the bottom and walls of the cells. In trying to extract honey late in the fall, I have turned the combs so hard as to mash them into the wire cloth, but I did not get the honey *all* out, even then. As our extractors are capable of revolving the combs all they will ordinarily bear, I do not know how we can improve on them in this respect, by making the machine larger and heavier. I know Dadant recommends extracting honey late in the season, after the yield is all over, and I know that we, too, get a very fine quality of honey by this means; but unless we choose a very warm day for the work, we shall find it a pretty difficult matter to get it all out, as stated above; and if we give combs to the bees to let them collect what remains sticking to the combs, as explained, we shall very likely have robbing, such as you seem to have had. Will those who have had experience in this, tell us something about it? In all our experience in extracting, and we have extracted very late in the fall too, we have always been in the habit of giving the combs back to the bees to be cleaned before putting them away for another season. Unless this is done, the honey will dry down on the combs so hard that it seems to me it would be a task for even the bees to clean them next season. As for an extractor that would throw the honey *all* off from the combs, so that it is all clean and dry, the matter would be an utter impossibility. Very thin new honey in very warm weather would come of pretty clean, but there would still remain a film, held by capillary attraction, as explained above.

MAILING QUEENS ACROSS THE OCEAN.

ALSO SOMETHING ABOUT THE DIFFERENCE BETWEEN THE TERMS PALESTINE, HOLY-LAND, AND SYRIAN.

MR. A. I. ROOT:—Five parties sent me queens, of these but one, Mr. F. W. Burgess, succeeded in getting me the required number of queens alive and in fair order (see GLEANINGS for Jan., 1884, pages 18 and 19), and he has received his prize queen—a six-dollar Carniolan (see GLEANINGS for July 15, page 477). One other party only, Mr. C. Weckesser, of Marshallville, Wayne Co., Ohio, succeeded in getting me a live queen—one out of three sent by him (one came dead, and one failed to reach me). As the one queen he got through alive was in good order, I have concluded to award him a discretionary prize out of the fund, though, of course, he has *failed* according to the strict construction to be put upon the offers published in GLEANINGS of last fall. But I have credited him with half the price of an imported Italian or an imported Carniolan.

As I have now made a complete success of sending queens by mail from here to America, and that without having received a single available hint through the shipments made to my address, I see no reason why the offers of queens free to those who can mail queens to me alive should longer remain open. But there are still a number of queens due to make out the $25.00, accepted on condition I could send out the amount in queens, and these I conceive should be sent to you.

I do not know what sort of queens, i. e., what races you might prefer: you seem to be well supplied with Italians; Carniolans, which, for my part, I consider far preferable to Italians, seem to be held as unworthy any mention in GLEANINGS; Cyprians have received faint praise in the same publication, and I find the terms Syrian, "Holy-Land," and Palestine all used by GLEANINGS as though they meant one and the same race of bees—a race which the said journal seems to regard as worthy of further propagation, so I have ventured to mail you a queen raised at Jerusalem (actually on Mt. Zion), Palestine—a queen which I call a Palestine queen—which might be called a "Holy-Land" queen if that term were to be used in its strict sense, but a queen which belongs to a very different race of bees from the Syrian race found on Mt. Lebanon, Syria. If this "Holy-Land" queen doesn't produce the sort of Eastern bees you prefer, then, to avoid getting another such queen, GLEANINGS will have to see that there is a clear distinction in its columns between real "Holy-Land" (Palestine) bees and Syrians (the bees of the Lebanon in Syria). With me there will be next year just exactly this distinction: I shall sell queen-bees imported from Palestine at just three-fourths the price asked for Syrians imported from Mt. Lebanon. Note that: Palestines (true "Holy-Lands") at 25 per cent less than Syrians. When I make this offer I think I know what the American (and, for that matter, the European) bee-keeping public want, and I have no fears that queen-purchasers will make their orders read "Holy-Land" or Palestine for the sake of 25 per cent lower price. No, they will put the word SYRIAN in plain capitals, and there will be no palming-off a Palestine on them, *as I am now doing on you*, under the fine-sounding name "Holy-Land," which, as heretofore used, has seemed to mean Palestine or Syrian, as happened to suit the convenience of writers, readers, queen-purchasers, or queen-sellers. But I must say, I think the writers and the queen-sellers have had the best of the bargain, the readers having been left by the writers in a lamentable muddle regarding Eastern races, and the sellers have contrived to keep the poor purchasers buying "Holy-Lands" until they (the unfortunate purchasers) could hit upon the "right strain" (doubtless the true Syrians—from Mt. Lebanon).

Thus, friend Root, when this queen reaches you she will have traveled the whole distance from the city of Jerusalem to Medina, O., by mail in a Benton mailing-cage—almost half way round the world. I have mailed many queens this year from Munich to various parts of Europe and America, and every one of the former have arrived in prime condition, while but two have thus far been reported dead, and but two others not in splendid order upon arrival in America. One of the two which arrived dead was delayed a week on the way, through having been addressed to Ohio instead of Indiana, and the other dead one got chilled accidentally before leaving Europe. *Most* of the reports from queens sent to America have been: "No dead bees, and queen in first-class order," or "Two dead workers, or three, or four, dead workers; rest bright and lively." The shipments have been 14 to 24 days on the way. Mr. Wm. Little, of Marissa, Ill., reports that two Italians sent him took wing immediately upon opening the boxes, *which had been 24 days on the way from Munich to his place*. There were four dead workers in one box, eight in the other, rest in prime order. One of these queens was laying within 12 hours after her arrival, the other after three days. As I have not found queens that were in first-class order after their journey by mail, were impaired in their usefulness in the hive, I do not hesitate to say I have made

A COMPLETE SUCCESS

of mailing queens to America, and I shall be ready in 1885 to send them by mail to any post-office in the world which can be reached within 25 days, and up to 21 days I will guarantee safe arrival.

Some of the parties who have received these queens have spoken of my "good luck" in getting them through in fine order. But, there's no such thing as "luck" about it. More than ten years ago I mailed queens on long journeys within the United States, and I haven't ceased to think about the matter ever since then. Of late years, "the gude wife" has helped me in my experiments, and, though I have thought hard and long over the matter, she surely deserves a share of the credit for this final success. Very truly yours, FRANK BENTON.

Munich, Germany, Aug. 30, 1884.

Thanks, friend B.; but it does not seem even yet that it is worth while to make a distinction between Syrian and Holy-Land bees. The queens sent by friend Howard were sent from Palestine. In regard to the Carniolan bees, I thought I would hold on a little before I decided to perplex our readers, especially the A B C class, by still another kind of bees; and although I have ordered three queens, I confess I feel as if I wanted to give them a pretty good test in our own apiaries before I recommend them as possessing superior qualities. Very likely I am slow in taking up new things; but the fact is, I *mean* to be, until I am pretty well satisfied there is some reason for adopting another kind of bees. The queen you allude to did come to hand just as you said she would, in fine order, workers and all.—Friend B., it is quite a curiosity to know just how you make this candy that works such wonders, if that has any thing to do with it. If you prefer to sell the recipe instead of making the candy (and I am not sure but this is the best way), tell us what it is worth, and we will pay you well for it. You have achieved success in mailing queens across the ocean, and I confess I feel quite a little degree of pride in hearing you speak with such full assurance, while it is backed up by actual success. If I understand correctly, friend Jones intimated to Ernie, on his recent visit, that he had decided to drop both Syrians and Holy-Land bees, and breed only the Italians and Carniolans.

FERTILIZATION OF A QUEEN-BEE.

A WORD OF CAUTION TO INVESTIGATORS.

BRO. ROOT:—In GLEANINGS, p. 601, Mr. G. D. Kentner gives an account of a "meeting between a drone and a queen on the board in front of the hive," where a swarm of bees was entering. The purpose and result of that meeting we are left to infer; but, are you not a little too fast in concluding that the queen was thereby fertilized, or that queens are ever fertilized in such circumstances? Mr. Langstroth says, p. 125, "Young queens never leave the hive for impregnation until they are established as heads of independent families," and I believe that is sound doctrine. Many drones, and usually several virgin queens, are found in after-swarms; but nobody knows whether they "meet" and mate at that time, or make appointments for any future meeting—I venture to think that they do nothing of the sort. The accounts that we have from time to time need sifting. A lawyer would cross-question your witness, and find a very important missing link in his testimony, though it seems clear and straightforward, and evidently given in good faith. But he does not say whether he ever saw that queen again, or knew that she was then and there impregnated. The signs of copulation are very conspicuous and unmistakable, and we have seen them scores of times; but any one that claims to have seen the act must give proof before we can admit his claim. While Langstroth is at hand, see what he says, p. 127, of attempting to pry into this mystery. Has anybody, during nearly thirty years, come any nearer an ocular demonstration? Let me give a true and exact account of a similar "meeting" that I witnessed last year, and in almost the same words of your correspondent, only this queen was in a cage where her cell had been put for safe keeping, and, lifting the cloth where I wished to introduce her, I let her run from the cage on top of the frames where many bees were running about, being queenless. This queen immediately met a drone, and they "clinched" as if they tried to sting each other, and soon the drone fell back, and the queen was dragging the drone, and soon they parted and the drone was dead, and the queen went back into the hive, and the bees followed.

I know not what designs that unfortunate drone had, whose tragic fate he witnessed, but *mine* was evidently not dreaming of danger, or planning any elopement, but just walking across the street (as I may say), when this queen started out to "run a muck," seized and stung him in her fury, and, when free from that first victim, tried to sting others right and left. As I had seen such cantankerous queens before, I understood the game at once, and took out the frame to follow the sequel. The workers thus attacked promptly pinned this termagant by head, arms, and legs, and I left them to settle her case. She came out of that scuffle with one long leg queerly bent back and crippled, but fortunately her wings were unharmed, and in a few days she took her flight and was regularly impregnated, and I don't think any one witnessed that meeting, though I interviewed her daily afterward, until she became the mother of many bees.

I had another young queen that stung a worker and dragged her about a while in my observing-hive. Now, the books say that queens sting only other queens; but there are exceptional cases, and I could mention a few more.

I should like to suggest a reason for these queer antics of the *princesses*, as some one has styled them. In each instance these princesses had issued from their cells on original frames where others were hatching near them, or a dozen or more were in cages where the cells had been placed to ensure their safety. They became uneasy, and anxious to get at each other, excited by the note of defiance, and furious to such a degree that they were ready to stab right and left, no matter whom they hit; and they did not feel around for a soft place as workers often do, but plunged in the poisoned dagger on the instant of contact.

It seems as though this rancorous temper needs control, and the bees often get excited in their turn, and overdo the discipline, so that the queen is not interested in any subsequent proceedings when they have got through.

Moral.—An honest witness may be in error in regard to what he thought he saw, and he and others much more in error as to the inferences drawn.

Casky, Ky., Sept. 8, 1884. D. F. SAVAGE.

Thanks for your caution, friend S.; but if I understand you and Mr. Langstroth, you are both a little behind the times. As much as seven or eight years ago I reared queens, and kept them caged until the proper age, and let them out one at a time, and had them fertilized. When they came home from their wedding-trip they were caged, and used as laying queens. Reports of these experiments were fully given at the time. If I am correct, they had never been heads of families at all. But in a short time back, reports have been given of queens being hatched out in the house, and kept in a tumbler until they were old enough to meet the drone. They then went out, and, after a lapse of the proper time, returned with the proper marks of fertilization, and were ready to introduce into new hives. I have seen queens from after-swarms go out upon their wedding-trip within an hour after hiving the swarm.—Very likely, what has been reported as a meeting between the queen and drone has been only like your case, where the queen stung a drone and killed him. I have seen caged queens sting worker-bees and kill them, but never before heard of one stinging a drone. I am inclined to think queens have been fertilized near the entrance of the hive, when they had imperfect wings. If I am not mistaken, Mr. Langstroth, in a communication to one of the journals some years ago, mentioned such a case. However, the caution is a good one, and it will be well for all of us to be sure we are right before we go into print. We have had reports in our back volumes, quite a number of times, from those who have actually been eye-witnesses of a meeting between the queen and drone, and it seems to me the statements are clear, and worthy of credit.

ERGOT AND HONEY-DEW.

THE APHIDES NOT ALWAYS THE CAUSE.

DEAR MR. EDITOR:—This "manna grass" (see GLEANINGS, current vol., pages 518, 596, and 602) has interested me very much. The grass which you sent me came in part from F. D. Culver, Quincy, Michigan, and part from a gentleman in Ohio. The grass looked as though it had been dipped in syrup, and dried; as small white crystals could be seen. By touching the tongue to the grass, or putting it in the mouth, a very sweet, pleasant taste was quickly perceived.

As I wrote you the other day, I could see no insects nor any sign that insects had been on the grass; but instead I found many ergot grains. As I had never heard that ergot caused honey-dew, I at once dismissed the ergot question as unimportant in the matter of the nectar. Dr. Gronge, our Professor of Veterinary, being interested in ergot, I gave the ergotized grass to him, telling him of the "honey-dew." He soon came to me with a work on veterinary medicine, where ergot was described. It was stated in the description, that at an early stage ergot secreted drops of honey-dew which are very attractive to sweet-loving insects. I have since examined the subject at length, and find that our European authors always speak of the sweet secretion from this fungus. Thus we see that honey-dew may arise from fungi no less than from insects.

Ergot is a violet-black, or dark-purple fungus; the technical name is *claviceps purpurea*, which attacks the pistils of grasses, hedges, and palms. Rye is a favorite victim of this fungoid parasite. The seed of the rye or grass, when attacked by ergot, is dark, almost black, slightly curved, and secretes a sweet, slightly yellowish liquid, which is the so-called manna or honey-dew. This ergot is quite abundant in some of the Western States in certain years, and, I regret to say, has made an unwelcome advent into Ohio and Michigan.

Ergot as a medicine is very powerful. It acts on the involuntary muscles, first inducing spasms, and then, as Brown Sequard shows, causing paralysis. This is often given to promote uterine contraction, and also in nervous diseases. From its energetic action it is not regarded as a very safe medicine.

In rye it is sometimes eaten by the human kind, and induces serious poisoning. The first symptom is red eyes, followed by cold limbs, swollen joints, and gangrene of limbs and intestines, which terminates in death by convulsions. In Europe, such poisoning has often caused epidemics. Many of the diseased symptoms may arise from the action of the ergot to convulse the muscles of the vaso-motor system, and shut off the blood supply.

When cattle eat ergotized grass or rye they are liable to poison, as shown by Bonjean and others, with symptoms almost identical with those of man when suffering from the same poison.

We see, then, that there is a very dark side to this ergot picture, and we may well rejoice if there is a sweet aspect to the subject. The ergot nectar seems sweet and pleasant; if it is wholesome (?) we may still rejoice that every bitter has its sweet.

HONEY COLIC.

Dr. Tinker, in a recent article, argues that honey distresses only the dyspeptic, and that any such sufferer should repair to a good physician to get his disordered stomach patched up. Of course, doctors rarely make mistakes, and Dr. T. *very* rarely; but on the subjects of dry fæces (?) and honey colic he needs to study up. My father was a wonderfully strong man; could eat almost any thing at any time with perfect impunity; but even a slight taste of honey would invariably cause intense colic. Though far from a dyspeptic, honey was a virulent poison to him. Boiled or granulated honey he could eat with perfect safety. A. J. COOK.

Lansing, Michigan.

Many thanks, friend Cook. I noticed the ergot on the heads of the manna grass when it was sent me; and although I did not know what it was, I had a sort of feeling that the dark fungus which I called it might be in some way responsible for the conversion of the starchy matter into sugar. The honey had such a pleasant taste that I should hardly think it would prove unwholesome. So here, then, is another source from which honey may come. It does seem indeed as if the field from which the bees may occasionally obtain stores is going to for ever widen out under the eye of the careful student of nature and nature's wonderful processes.

DOOLITTLE'S REPORT FOR 1884.

A DISCOURAGING REPORT, EVEN FROM FRIEND DOOLITTLE.

ON page 371, present volume of GLEANINGS, will be found a report of my winter losses, which, together with the filling of orders for bees which I had previously contracted, reduced the 80 colonies I had in the fall of 1883, to 40 to commence the season of 1884 with. As 14 of these were rather weak I decided to use them in forming nuclei for queen-rearing, while the remaining 26 were to be used for storing honey. However, as I found that I could not fill all orders for queens with nuclei made from the 14 weak colonies, I was obliged to draw quite heavily on the other 26, both of bees and brood, to form what nuclei I was obliged to have. This, of course, lessened the honey-crop to a certain extent; yet, as what little they did get came so late in the season, I imagine that 100 lbs. would be as much as I could count lost from this source. When the golden willow opened, the bees went to work with a will; but the returns for their labor were but meager, as little more than a living was obtained. Hard-maple failed to blossom, so no honey nor pollen from that source was obtained, while the dandelion gave nothing save a little pollen. As my hives were now nearly destitute of honey, I lived in hopes that the apple-bloom, which promised much, would give my bees a generous supply; but when a cold rain set in as the blossoms began to open, I realized that there was nothing certain in the honey-crop, even though every thing gave promise of a bountiful yield. All through the bloom, the weather kept cool and cloudy, with the exception of half a day, so that, when the dearth of honey which we always have after apple-bloom arrived, there was nothing left for me to do except to feed, which I did for nearly four weeks. A few strong stocks were able to get nearly a living; but for all that, two barrels of sugar vanished out of sight before a living from the flowers was obtained.

On June 12th the locust opened, and the bees got but 1½ days in which to work on that, for, with the afternoon of the 14th, came cold and rain, which lasted till the bloom was past. All through the season the weather seemed to be contrary; for whenever the flowers opened upon which we depend for honey, it would be cold, windy, and rainy; while, when there were no honey-flowers in bloom, it would be fine. So it now happened that we had splendid bee weather from June 18th to July 6th (as we had all during the dearth of honey between apple and locust), but as we have little white clover here save by the roadside (our section of country being used for grain-rearing quite largely, thus keeping the white clover out by constant plowing), the bees got scarcely a living from the clover.

From raspberry and sumac, a few of the stronger colonies secured a few pounds surplus, but not enough so they worked of any account in sections.

From July 6th to Aug. 10th the weather was cold, cloudy, and windy (being often accompanied with a mist, or slight sprinkle), with the exception of now and then a day or part of a day when the sun would shine. Basswood opened about July 14th, and I kept hoping that another day would bring better weather; yet for a whole week the bees could do little else than get a little water. At this time there was one day when the sun shone all day, and I never saw bees work faster than they did that day; but with the next morning came the same cold, cloudy weather again, which held on four days more. During these four days the bee-yard presented the appearance of winter, save that there was no snow, and I began to realize the fact that the year 1884 was to be the poorest honey season we had seen since 1869, which was my first year at bee-keeping. After the four days, we had a good honey day again, when the next was bad. In the afternoon of the next, the bees got honey quite freely, which was the last of the getting of honey from basswood; for bad weather now continued till the bloom was all gone.

Later on, a little honey was secured from teasel, when the weather would allow the bees to fly; but the major part of it was used for brood-rearing, which was kept up more largely than I ever knew it during the last half of July and first of August. All through the last half of August and first 15 days of September, we had splendid honey weather; but as little buckwheat was sown about here this year, and as we have no fall flowers, no honey was obtained.

I shall go into winter with about 75 colonies, 55 of which are full, and 20 small ones, made by uniting nuclei. The full colonies mostly have nearly honey enough to winter, while the others must be fed all their winter stores.

The result of the season is as follows: 439 lbs. of comb honey at 15 cts. per lb., = $65.85; 272 lbs. extracted honey at 10 cts., = $27.20, which, added to queens and bees sold to the amount of $500, makes $593.05. From this I have to deduct $60.00 for sugar fed, which leaves $530 as the pay for my season's labor, or $13.25 for each colony in the spring, which is not a bad showing for one of the poorest seasons ever known. However, had it not been for the queen business I should have had only 711 lbs. of honey (an average of 27⅔ lbs. to the colony), from which I must deduct the sugar fed, leaving me only about $30.00 for my work. Viewing it in this light, I could reasonably say that bee-keeping for the year 1884 was a failure, resulting from very unfavorable weather.
G. M. DOOLITTLE.

Borodino, N. Y., Sept., 1884.

And so, friend D., although we can say that you get honey every year, yet we shall have to add that once in a great while you fail to get it in paying quantities. However, $13.25 per colony is not so very bad, after all. I should put your report something like this, it seems to me: "The above result was made from the 40 I had to commence with in the spring, and 14 of these were so weak that they could not really be counted as colonies." At any rate, you had an income of over $500, besides leisure to attend to considerable other business which probably afforded you more or less income—strawberries and other small fruits, potatoes, and the like of that.

THE OTHER SIDE OF BEE-KEEPING.

SOME WORDS OF CAUTION TO THOSE JUST EMBARKING IN THE BUSINESS.

FILLED with text-books, GLEANINGS, and enthusiasm, beginners are prone to overdo. They do too much fooling with bees, time, and money. They must transfer, Italianize, have every trap, and try every trick; have every thing, and do every thing that anybody and everybody else does. That is the tendency of many, if not all. I have done too much with my bees; have worried them and myself too much. If I have not spent too much money on them, it is because I have not been able to get it to spend. I have not been able to get half the improvements I have wanted to try, and I now thank my lucky stars I have not.

While on this matter of spending money, I would emphasize the thought that we must take into account the comparative prices of supplies and produce. When lumber and beeswax were lower, and honey was higher, it was possibly profitable to invest in every modern improvement. But at the present cost of the two first-named articles, and the generally low price of honey, I am certain it will pay to go slow and step carefully. If accounts were compared, I think we would find that it is the supply-dealers and middlemen, not the honey-producers who are making the money. The enormous growth of the supply business during the last three years, and the plenitude and cheapness of honey, attest the great and increasing tendency to over-production. Springfield, Ills., is known to be one of the costliest places to live in, in the West; yet, in twelve months out of the last eighteen, her market has been glutted with honey in the most approved style at 15 cts. per lb. Not one out of ten of her merchants will handle it for less than 2½ cts., leaving 12½ for the producer. Now, any one who has tried it knows that one must get immense crops at low cost to make any thing at this rate. Hence I say that the few extra dollars spent for all these improvements can not be replaced by the few extra pounds of honey produced. I am humanitarian enough to wish, with Mr. Root, that honey could be placed within the reach of the poorest. But how, at present cost, can it be done, if done at all? if honey in the costliest style must be sold at half what it used to be in bulk, in which form it is scarcely salable, the price of supplies must decrease in corresponding ratio, instead of increasing as they have done in the last few years.

To novices, then, I repeat: Do not overdo; go slow; pick your way. As to details, even beginners must be largely left to judge what they should do, and in what they shall invest. But from the standpoint of present experience, I think I can give some valuable hints.

SHALL WE TRANSFER?

Do not be in a hurry to transfer. Our oracles may shake their heads at this. But I repeat with confidence, Do not be in a hurry. Of course, I would not advise you to put new swarms into barrels, cracker-boxes, etc., nor buy lumber, however cheap, and make box gums if you can help it. If you have a surfeit of hives and combs you wish to put bees into; if the hive is rotten, or the bees not yielding much honey, or in other cases we might mention, it is doubtless best to transfer. But if the hive is good; if the bees are doing well; if you have to buy hives, leave it alone until you are convinced it will be a saving to transfer. It causes some waste, it takes time and money. You can fix a rack of section boxes in the cap of almost any hive; the few extra pounds of honey you may get will not pay for the investment, and, mark the fact that bees will winter much better in a tall hive filled with old tough combs without care, than in any other.

CONCERNING OLD-STYLE HONEY-BOXES.

Do not be in haste to throw away your old bulk honey-boxes. You may want them. When I first started in apiculture I promptly discarded them. I was not going to be any old-fogy bee-keeper. I wanted none of their old-fashioned boxes. I was going to raise honey in the new, improved style, I was. I tore them to pieces, or kicked them aside. This year found me washing and mending them for use. Many persons about home will pay as much for honey in that shape as for that in the costliest form, and they will return the boxes in order to deduct the tare. I find lots of folks who do not like to buy lumber, and call it honey, and you are saved investing that much.

ZINC HONEY-BOARDS.

I do not think it best for beginners to invest in zinc honey-boards. I know they must be a great convenience—I should like to have them; but when trouble and honey are cheap, and zinc costly, I think it is better to endure the bother than spend the money. The one queen out of a dozen (mine have not averaged that often) which will go into the surplus boxes, will not cause trouble enough to warrant the expense of a dozen boards. Think also of the objections that have been urged in GLEANINGS.

THE USE OF FDN. IN FRAMES.

The use of wired frames of fdn. is often neither necessary nor advisable. It is true, they give us stout, straight combs, and prevent the nuisance of drone comb. In shipping, extracting, and artificial swarming, they are valuable; but otherwise they are not necessary, and beeswax and fdn. are high. I use the L. frame with triangular top-bar. I take a half-sheet of fdn., lap it about ⅞ of an inch over the comb-guide, and with a few "swipes" of my pocket-knife blade it is fastened on securely. This secures straight combs, gives the bees that much to work on, saves the expense of wire and wiring, and the fdn. does but little sagging. I have used it this way extensively this year. In only one case did it sag at all, and that was the top of some of the middle frames. I moved them to the outside of the brood-nest, where brood will seldom if ever be reared in them. Some drone comb will, of course, be built in the lower part of the frame; but we want a little of it; and if there is more than we want, while honey is cheap and wax dear, we can cut it out and render it into wax without much loss, or use it for natural starters. However, to manufacturers and dealers, and those having a thousand frames to wire at once, it may be economy to use full wired frames. GEO. F. ROBBINS, 39—64.

Mechanicsburg, Ills., Sept. 11, 1884.

Friend R., your remarks are, in the main, good; but where one has bees not in a movable-comb hive, I think I would advise transferring at once, when the proper season of the year comes. To work intelligently, we want our hives so that all the combs are interchangeable.—If your customers will pay as much for comb honey in large boxes, it may be as well to use such; but, why not cut it right out of new and clean brood-frames? You get more honey in this way, and a frame is cheaper than a box.—I, too, do not believe in investing much money in zinc honey-boards; but as others think differently, and as there has been a very large call for the article, we as supply-dealers have been obliged to furnish it.

ADVANTAGES OF THE REVERSIBLE FRAME.

SOME VALUABLE SUGGESTIONS IN THE MATTER FROM FRIEND DUTTON.

I AM no enthusiast in the matter of reversible frames, for it is only under certain circumstances in connection with the production of comb honey that I can see any benefit resulting from their use at all. What these circumstances are, I shall leave the reader to judge from the following comparison of the relative merits of the two styles of frames, a comparison I shall endeavor faithfully, and without prejudice, to give.

Four points of excellence are claimed (I believe justly) for the reversible frame:

1. More brood can be obtained in less compass.
2. The bees can be driven to work in the upper sections.
3. Almost the last drop of honey of the season can be sent above.
4. Solid combs are secured.

These four points appear to be weighty considerations in favor of the reversible frame, certainly; but before we discard our old frames, or resolve to adopt those which are reversible, if just beginning in apiculture, let us first ascertain how far these four very nice features can be discovered in our old friends.

Point 1. After the frame has been reversed, providing the cells have not been too much lengthened out, and you possess a prolific queen, she will, in all probability, fill the extra space with brood; but if you possess the ordinary frame, and practice the plan of spreading the brood, and with a good queen, very little advantage can be gained by reversing the comb, so far as I can see.

Point 2. When the ordinary Langstroth frame is employed, bees, as a rule, especially when possessed of a dash of German blood, will occupy the top sections, as a rule, immediately, other conditions being favorable; but if the deep frame is used, and side-storing practiced in connection with top, *a la* Doolittle, the bees can be made to work in the upper sections at the pleasure of the apiarist.

Point 3. If it is thought desirable to have all the honey in the brood-chamber removed into the supers, this can be accomplished. 1. Providing the honey is all stored along the top-bar; 2, Providing the frame is filled solid with brood from end to end below the honey-line; if these conditions are present, then, by simply reversing the frames, the honey is carried up-stairs at once; but if they are wanting in any degree, then just so far does the reversible frame cease to possess any advantage over the ordinary in respect to point No. 3.

Point 4. Wiring the usual style of frame, and placing the fdn. almost in contact with the bottom-bar on the wires, leaving ⅛-inch space at the sides, and ¼ inch above the sheet, will give combs as solid as can be produced by any reversible frame in existence.

Having now compared the two styles of frame, if I were asked which one I should adopt in view of what I have written, my answer would be, the reversible, if I employed the Langstroth frame and took my surplus from the top exclusively; but the ordinary, if I used a deep frame, and practiced side-storing in connection with top.

Still further, I believe that I have made an improvement, even on the frame described in my article in GLEANINGS; but whether you, Mr. Root, may consider it so or not, it pleases me better, and comes still nearer my ideal of what a practical reversible frame should be; and, besides, doing away to a considerable extent with the objections you raised to the frame as described in GLEANINGS, there is a saving of 4 wire nails to each frame, which is a consideration. It would make this too long an article to enter into its description here; but if any should be desirous to learn more about it they will find it described in detail in the *A. B. J.* for July 30. A. H. DUTTON.

Brussels, Ont., Aug. 6, 1884.

The device referred to in the closing sentence, friend D., is essentially the same as the one mentioned on page 152 of GLEANINGS for the present year. I will explain to our readers that it is simply placing supporting-arms to the frame midway between the top and bottom of the end-bar, and, of course, placing the rabbet on the ends of the hives midway between the top and bottom. The objection is, that frames so supported are much less steady than one hung by top-bar; and unless some kind of spacers are used for the top-bars of the frame, they are very easily knocked out of place. The supporting-arms must also be put in very accurately indeed, or the frame will be leaning either one side or the other. I do not think it will obtain favor. Your remarks on the subject are excellent.

HONEY FROM CORN.

HOW TO TELL WHEN SECTIONS ARE FULL, ETC.

TWO weeks ago I wrote you, stating bees were out of employment for the present; but in a few days they were at work gathering as hard as ever; and as I have watched them very closely this summer, so as to learn all their little tricks, I soon found them in a field of corn, so I concluded they were gathering. Well, Prof. Cook doesn't call it honey; but as regards *my* bees, it was as much honey as they gather on box-elder when it blooms. It was a rank piece of early corn they were on, and they worked in the same style as on box-elder bloom. I got my glass that makes a bee as large as a rat (or less), and could not find any trace of the corn-louse. The field was in pasture for six years before, which would make it free from corn lice; and as the bees worked on this field for four days before the other corn tasseled out I had a good chance to watch them, which I did for nearly an hour at a time, and could find no trace of any other vermin. I may be, for all that, mistaken, but it would be hard to convince me of it.

WAX SCALES SECRETED ONLY BY YOUNG BEES.

Another thing I notice: It is only young bees that make wax; or, in other words, a bee produces only one crop of wax; and if comb-building were needed ever so badly, the old bees could not produce any wax scales.

HOW TO TELL WHEN SECTIONS ARE FULL.

Another thing I find fault with is the way you rig hives for surplus comb honey. You may say I need not buy what I don't like, but I can't get them as I like them, so I have to use what is on the market, or make my own, which is not convenient. The fault I find with wide frames is, you can't tell when they are full without pulling one out, which disturbs the bees. With the Heddon cases it is no better. I got 10 of them, or, rather, 10 hives with 20 cases, and this is the last year I shall use them, unless some one can tell me how to find out how much honey there is in the case without taking it off.

SMOKERS AND CYPRIANS.

I have only a Clark smoker, and I keep some of those cross Cyprians, and Doolittle says you need a Bingham. Now, I can't get any more smoke out of a Bingham than out of yours, and the price I don't like; still, some men think a cheap article "no good;" and about those Cyprian bees, they are no worse than Italians, and not half as bad as some that came from the Banner Apiary. The trouble with Cyprian and Holy-Land bees is, they are not used to being handled; but if they get no quick jar there is no trouble. W. CONNELLY.

Ogden, Iowa, Aug. 4, 1884.

Friend C., will you please tell us whether the bees got the honey from the corn-tassels, or from the base of the leaves? I think it is pretty well proven that bees do sometimes get honey from corn.—If I am correct, old bees can, when obliged to, secrete wax scales. When there are bees of different ages in the hive, those of a certain age usually take up this duty.—There are several ways in which you can tell when the sections are filled. The simplest is by slipping your finger along the top-bar of the wide-frame, or, better still, the top-bar of the sections. When you get accustomed to it, the sound of the finger sliding over it will tell which sections are filled. Some bee-keepers prefer to tap lightly with the finger. Try tapping a filled section, and one unfilled. The empty one gives back a sound like the sounding-board of a violin, though, of course, very faint in comparison. The filled sections give back almost no sound. It is not a great task to take out the wedge, and pry every one of the frames so that you may see between them. When you close them up again, of course you want to smoke the bees out of the way.

SOME KIND WORDS FROM THE BEE-FRIENDS IN CANADA.

NOTES OF THE MEETING OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.

KNOWING your kind interest in our Canadian prosperity, I haste to pass you a few jottings of our convention just terminated, being held in the same place (council chamber, City Hall) where the N. A. A. held its meeting a year ago (always kindly placed at our service by mayor and city Fathers free). Although our gathering was not quite so large, we felt it was all the larger for the good influence of that extra pleasant and profitable meeting, as the many recollections thereof now brought up on this occasion witnesseth.

Our membership is now over double that of a year ago. We had three evening sessions, and two informal forenoon meetings in Industrial-exhibition directors' hall on the grounds (also cheerfully lent us for the purpose). Questions covering much of the ground so often gone over were discussed with more than common interest. Mr. Jones and other (now leading) bee-men, too, seemed so to feel the importance of these discussions and interests as to leave other pressing calls on their time to wait and *bee* present every time. Kindly newspaper reporters, too, seemed really to enjoy the curious and astonishing revelations of the inner bee-hive operations, and as if pretty well inoculated with regular "bee fever." You will no doubt have lengthy reports in your Canadian exchanges, so I must not trespass on your space. In fact, one more main idea, however, intended to be expressed in this communication must be allowed to suffice for the present; just one element appeared wanting. Need I tell you the want? Well, it was manifested by prompting such inquiries as, "Will none of our over-the-line cousins, 'Root' or *branch* be with us?" "What were our good officials about, that they didn't see to sending pressing invitations, and securing the presence of some such as any of those who last year contributed so materially to the pleasure and profit of that season of "happy memories"?

I now conclude with this broad hint, that some, yea, many, over there may calculate on a year hence, taking part in the meeting of the O. B. K. A.

JACOB SPENCER, Sec.

Thank you, friend S. I have often thought of you this fall, and I also must confess to quite a longing to go once more to Toronto and see the faces I met there. But, how about your honey-crop this year? I scanned the above article all through. Are you still booming as you were a year ago, or are you, too, in the same boat with friend Doolittle and some others?

PYRETHRUM.

The Way it Operates in Destroying Troublesome Insects.

PROF. COOK ALSO TELLS US WHAT BUHACH IS.

DEAR MR. ROOT:—In response to your and Mr. Muth-Rasmussen's inquiries in last GLEANINGS, p. 624, I reply that pyrethrum is a generic term referring to the powdered flowers of any one of three distinct plants—*Pyrethrum roseum*, *P. Carneum*, and *P. Cinerariæfolium*. The powder from the two first-mentioned plants is known from the locality where the plants grow, as Persian insect-powder, and for a like reason the latter is called Dalmatian insect-powder. Buhach is the Dalmatian insect-powder that is grown and manufactured in California. G. N. Milco, of Stocton, Cal., who, I believe, is a Dalmatian, has given the name of his product—buhach—to protect him against the adulteration, which is quite sure to overtake so valuable an article. This powder owes its valuable properties to the presence of a volatile substance which, unless the powder is kept close, will escape, when the article is valueless. Buhach, which I have had a year, and have kept in a close tin vessel, is not so effective as last year, nor so effective as fresh powder obtained this year; yet it kills most insects to which it is aplied.

Another peculiar property of fresh pyrethrum is, that it may be mixed with several parts of flour, and still be potent to destroy. This makes adulteration easy, and likely had its influence in causing Mr. Milco to adopt a peculiar name for his product.

Buhach—indeed, all pyrethrum—kills by contact, and not by being eaten. Again, it is entirely non-poisonous to vertebrates. A friend told me that he ate a tablespoonful, with no harm, even to his digestion.

I have found the powder very effective to kill many insects, when dusted on to them by use of a dust-bellows, or sprayed on to them when mixed with water—one tablespoonful to two gallons of the liquid—by use of a Whitman pump, or when the alcoholic extract is applied as a spray. We kill our house-flies by dusting on the powder. We do this as we retire at night, and can sweep up the dead or paralyzed flies the next morning. I prefer to kill cabbage-worms, slugs, etc., by spraying with the liquid mixture.

I have not seen the article you mention, so can not say as to the correctness of its representations, but I do consider pyrethrum a *very valuable* insecticide, especially the buhach, which is more apt to be pure and fresh.

While many of our worst insect pests are quickly killed by use of this powder, I have found that some bugs and a few beetles are proof against it. In all our use of this substance, when dusted into close rooms like living-rooms or chicken-houses, the dust comes in contact with flies, lice, etc., and quickly kills. We must put it immediately on the insects, as its virtue is soon gone.

A. J. COOK.

Lansing, Mich.

Thank you, friend Cook. This is indeed something wonderful, that so small a quantity of these insect powders can do so much. If I remember correctly, when you addressed our agricultural institute here, you told us just a puff of the powder would kill all the flies in a room.

FERTILIZATION OF QUEEN-CELLS.

IS IT FERTILIZATION, OR ONLY HIGH FEEDING AND PREMATURE DEVELOPMENT FROM THE HIGH FEEDING?

IN 1872 or '3, during the months of July and August, I doctored, high fed, or fertilized, some fifty or more queen-cells. The queens from the cells that hatched were extra large, well developed, and very strong and plump. I was experimenting to prove or disprove the theory that the sex of queens' eggs was the result of the different food furnished by the bees. At that time, and up to the present, I have always given to the nuclei-raising queens a frame of eggs and unsealed larvæ when the queen hatched, to keep the bees at home when the queen went out on her bridal tour. I did notice that there seemed to be eggs and larvæ in the frame after I put it in, and supposed I had discovered a means of getting large, well-developed queens that laid some five or six days before the usual time. I did not then, nor do I now, think that they were fertilized, although it may in the end prove to be so; for, watch them as close as I could or can now, I have never seen the usual signs seen on young queens about the fifth day.

At the time of the experiments I fertilized, or high fed, by feeding the queen-larva an extra dose of the food taken from another queen-cell, also in some the food prepared by the bees for the drone, and to some I fed both kinds of food; and in some, besides the food I put a drone-larva in the queen-cell, and with a camel-hair brush punched said larva, and so got his juice, or moisture, on the queen-larva, and mixed with her food some of the drone-larva. The bees sealed up with the queen-larva when they sealed the cell. The conclusion I came to then from my experiments was, that extra-large, strong, well-developed queens hatched that laid younger than the usual time, as a result of the high feeding; and that a premature development, sexual and physical, was secured; but I could then see nothing more practical, and so discontinued my experiments.

To-day I have three queens that commenced to lay inside of 24 hours, two in four days. I will give more particulars in my next. I have now 10 queens from doctored cells; one has imperfect wings, but is otherwise well developed, strong, large, and looks as if she were a laying queen. If she lays, I shall be almost converted to the theory that they were fertilized. One thing I am certain of: Open a cell at the base, insert a drone-larva about half the size of the queen-larva, then on the fourth day open it again, and the queen-larva has proved to be a cannibal, for the drone-larva is gone.

In making the experiment of the drone-larva with a queen-larva, don't put a drone-larva the size of or larger than the queen, as, instead, you will have a large, fine, well-developed drone for your pains, instead of a queen. J. M. PRICE.

Tampa, Fla., Sept. 8, 1884.

Friend P., your communication seems to be a sort of missing link in this new revelation. Our friends will remember that I have for years insisted that it seemed quite probable queens that have never been fertilized sometimes lay eggs producing workers, and you will find something of the kind suggested in the article on drones in the A B C book. Now, friend Price tells us how this comes about. Where a queen is from the egg, given an unusual amount of very strong nourishing food, she may lay worker-eggs without fertilizing; and drone-larvæ, given at the proper age, seem to be unusually potent in helping along this rapid development. In some of the earlier volumes of the *A. B. J.*, several articles were written by a friend who advocated something similar to this. I have now forgotten his name; but as J. M. Price, who writes the above, was a correspondent at that time, he will perhaps remember the circumstance. Learned men and scientists may perhaps call all this imagination; but, truth is mighty, and will assert itself.

THE ART OF SAW-FILING.

SOME VALUABLE HINTS ON THE CARE OF SAWS.

I HAVE just been reading in your A B C book your instructions about filing circular saws, and I shall take the liberty to criticise a little. What you say is all right so far as it goes, but it stops too soon, as you have left out one of the most important items in dressing any saw, either hand or circular; and that is, the "jointing." Something over 25 years ago I was set to work with a mechanic of a much larger experience than I then had, at putting together some fine joiner work, and he asked me if I was a good hand at filing my saws. I answered, "No." So he volunteered to dress my saw for me. Well, I made out to get along with it one forenoon, but it was impossible to saw off a 6-inch casing with it, and follow a straight line, so I hurried back from dinner and "jointed" and filed it again. He had left the teeth all shorter on one side than those on the other; and from that day to this I have never seen the man who could beat me dressing a hand-saw, for I at that time discoverd an item in saw-filing that I have scarcely ever seen used by a saw-filer.

I have several times written articles to mechanical papers on "the art of saw-filing," which have been published. But, hold on; I have jumped the track. I will switch back again, as I started to talk on circular saws.

When I got the Barnes foot-power saw of you a few years ago I thought I could dress a circular as well as a hand saw; but the 6-inch rip-saw soon got so that it would not cut smooth; and all I could do, I could not remedy it. I filed it over several times one day, and the more I filed it the more it wouldn't go smooth, so I did it up and mailed it back to the Barnes Bros., with a complaint that it was too light and thin; that it would spring too easy; but with it I sent stamps for its return, with the proposition that, if they could make it cut smooth, I would be satisfied. Well, in due time it came back and cut "smooth as a ribbon." They did not tell me what was the matter, but I soon found out. It was out of round, and wanted "jointing."

Now, wherein you have failed in your A B C, is to tell how this should be done. Here is my way:

I put the saw on the mandrel, then raise the table a little above the saw, then set it in motion at full speed, and take a file (or a whetstone will do, but the best thing is the flat side of an emery wheel) and lay it flat on the table over the edge of the saw, then with the set-screw (I have all of my tables to adjust with set-screws) very carefully lower the table until the saw-teeth touch the emery, and are cut off enough to make it true and round. This will also joint it square with the side. Whenever a saw makes a few side jerks, and leaves a rough cut about the time it has cut half its width in, or when the end of the piece gets over the mandrel, you may at once know it is out of round.

A. A. FRADENBURG.

Port Washington, O., Feb. 11, 1884.

Many thanks, friend F. Until I had read your article I felt sure I had given directions for truing up saws, in the A B C book; but come to turn to it I find I gave instructions only for facing off the sides of the teeth. In our next edition I will make the required amendment. Thanks to you for noticing the omission.

LIST OF PREMIUMS AWARDED AT THE OHIO STATE FAIR.

ALSO SOMETHING IN REGARD TO THE ADVANCEMENT OF APICULTURE IN THE STATE.

FRIEND ROOT:—The advancement of apiculture can well be noticed by attending the Ohio State Fair. Two or three years ago there were but one or two exhibitors, with from six to ten entries; this year there were 83 entries and ten exhibitors. This, I think, is probably about the average throughout the State in this industry, which, in my opinion, is making more rapid progress than any other, and is destined, in the near future, to become one of the leading products of this State.

The premiums, as they were awarded at the Ohio State Fair in Apiarian Hall, are as follows:

Crate or case of comb honey—
Mr. Newlove.......first
Mr. Riegel.......second
Display of comb honey in marketable shape—
Mr. Riegel.......first
Mr. Besse.......second
One dozen perfectly filled one-pound sections—
Mr. Riegel.......first
Mr. Besse.......second
Display of extracted honey in marketable shape—
Mr. Goodrich.......first
Mr. Riegel.......second
General display of comb and extracted honey—
Mr. Riegel.......first
Mr. Goodrich.......second
Manipulation of full hives of bees, with instructions to beginners—
Dr. Besse.......first
Nucleus of Italian bees, including their own queen, purity of race, size, and color—
Mr. Newlove.......first
Mr. Benedict.......second
Display of queen-bees—
Mr. Riegel.......first
Mr. Besse.......second
Sample of beeswax, not less that three pounds—
Mr. Goodrich.......first
Essay on the production of comb and extracted honey—
S. D. Riegel.......first
Sample of foundation for brood-chamber—
Mr. Drum.......first
Sample of foundation for surplus—
J. L. Mack.......first
Foundation-mill—
Dr. Besse.......first
Foundation-press—
Mr. Newlove.......first
Beeswax-extractor—
Mr. Newlove.......first
Bee-smoker—
Smith & Smith.......first
Uncapping-knife—
Dr. Besse.......first
Bee-veil—
J. L. Mack.......first
Bee-feeder—
Dr. Besse.......first
Honey-extractor—
Mr. Newlove.......first
J. L. Mack.......second
Shipping case, or crate, for comb honey—
Mr. Drum.......first
Mr. Newlove.......second
General-purpose bee-hive—
Mr. Newlove.......first
Mr. Kingsbury.......second
Arrangement for absorbing moisture and retaining heat at top of hive—
Mr- Kingsbury.......first
Mr. Drum.......second

C. M. KINGSBURY.

Mt. Vernon, Ohio, Sept. 10, 1884.

BEE ENTOMOLOGY,

Or Enemies of Bees Among the Insect Tribe.

YELLOW-JACKETS EATING BEES.

I SEND by to-day's mail a specimen of yellow wasp, which seems to have a great relish for honey-bees. I think it is the wasp spoken of by Prof. Cook in his book (page 330), Manual of the Apiary, under the name of social paper-makers. As the bees come home laden with honey, the wasps seize them; the bee struggles, but is soon overcome, and carried away by the wasp. After a weak colony was completely discouraged, the wasps entered the hive and ate the honey. Perhaps Prof. Cook will not object to telling us something of the habits of our voracious visitors. U. H. WALKER.

Fort Douglas, U. T., Sept. 9, 1884.

Prof. Cook replies as follows:

The wasps sent by U. H. Walker are our commonest yellow-jackets, *Vespa vulgaris*. They are yellow, with black rings and dots on abdomen; a black thorax, ringed with yellow, and black eyes on top of head. They make large round paper nests, and become very numerous toward fall in each colony. They catch and eat insects, and are very fond of honey. There is a large nest of these under a sod in our apiary. While I have often seen them dipping honey from the frames, my fingers, etc., I have never seen one catch a bee; but from their habits I can readily believe they may do so. I have another very large colony of these yellow-jackets in my buggy-shed. Many have great fear of yellow-jackets; but if we are gentle with them they are entirely harmless. Like bees they do not usually attack first. A. J. COOK.

Agricultural College, Lansing, Mich.

Yellow-jackets have been more plentiful during the past season than for many years past. I have often seen them around the hives as Prof. Cook mentions, but never knew before that they ever attacked bees.

BEE BOTANY,

OR, HONEY-PLANTS TO BE NAMED.

FIND inclosed a specimen of a wild flower that grows in the woods around here. It grows in the thickest part of the woods, and yields large quantities of honey. I don't know the name of it, and don't know anybody who does, so give us the common name of it, if it has one. **John Dallas.**

Sharpsville, Mercer Co., Pa., Sept. 10, 1884.

The above specimen of plant is tall white-lettuce (*Nabalus altissimus*, var. *ovatus*, Woods), of the Composite, or Aster family, the members of which may, as a general rule, be classed as "pollen-plants" rather than "honey-plants." This species is a tall plant (3 to 5 feet), bearing numerous cylindrical pendulous heads of about 5 flowers each; blooms in late summer and autumn. It is plentiful in rich and moist woods in Northern U. S. and Canada. **W. S. Devol, Botanist.**

Columbus, O., Sept. 18, 1884.

GIANT HYSSOP.

I send you herewith a honey-plant to name. I found one bunch of it along my pasture fence—the only specimen I have seen. The bunch is about 4 feet high, and has about 40 branches, with racemes like the one inclosed, ranging from 3 to 7 inches in length. When I saw it a few moments ago there were about 3 bees to each raceme. I should like to see bees on an acre of it. **E. W. Pitzer.**

Hillsdale, Mills Co., Ia., Sept. 8, 1884.

This is a specimen of giant hyssop (*Lophanthus scrophulariæfolius*, Benth.), belonging to the Mint family. It is a tall perennial, 2 to 4 ft., with purplish stem and large coarse leaves; flowers purplish, crowded in terminal interrupted spikes 4 to 15 inches long. It bears some resemblance to catnip. It is found throughout Northern and Central U. S. It is not common. **W. S. Devol.**

Columbus, Sept. 13, 1884.

COLORADO SAGE.

Work for the botanist. This is quite a honey-plant here. What is it? **Mrs. C. T. Stewart.**

Altona, Boulder Co., Col.

This is a species of sage (*Salvia*) resembling most *S. azurea*, Lam. This species, however, is reported as a Southern plant, with larger flowers and a greater number in the verticils than in the specimen sent. The difference in latitude will account for the variation in the species. It is a very pretty little plant, with blue flowers blooming most of the summer. It belongs to the great honey-producing family, and is probably one of the best of the native honey-plants of Colorado. **W. S. Devol.**

Columbus, O., Sept. 10, 1884.

SNEEZEWORT; ALSO SOMETHING ABOUT BERMUDA GRASS, ETC.

I send you the flower of a weed which is very common around here, upon which the bees have worked almost exclusively during July, and at present date are getting a great deal of pollen from it. Can you tell me whether it yields honey or not, and what is its name?

Honey is coming in fast enough to keep brood-rearing booming. I had no more trouble in transferring from those barrels. The one in which the two swarms went when they left the S. hive, I transferred a week ago, and found it full of bees and brood, and got about 50 lbs. of first-rate honey. I have all in S. hives, but one.

Please inform any one who is thinking of raising Bermuda grass, that it is next to impossible to kill out when it once gets started, and that it will soon spread over a whole farm. We have about 15-acres of it that has had 3 or 4 years start. Dr. S. thought to cultivate the land, and tried breaking it up with a sulky plow and three mules. Two hours' plowing broke the mules completely down, and almost ruined them. Still, it is the best grazing grass, of the South; will grow 18 to 20 in. deep, and give two crops a year without any care or work at all; it brings here as hay, $25.00 per ton. I have never seen any bees at work on Bermuda, though they work on weeds and clover right amongst it; but it may be like the much-disputed red clover, and the fault lie in our Port-Gibson bees.

It is said here, that the only way to kill Bermuda out is to turn in upon the obnoxious plat a number of hogs of the scrub stock, "shingle-back" variety, which will grub up and eat *all* the roots in six months or so, for one of the roots a few inches long will be a good start for another crop.

In looking over April Gleanings I notice you rather doubt that shooting into swarms did any good. I tried it through one swarming season, and never had it fail when I used a shotgun, loaded with small shot, and fired right into the swarm; but when using blank charges or a rifle, they invariably left, seemingly excited to frenzy by the noise. I suppose it is the concussion of the shot which causes them to cluster. But I prefer the Whitman pump, as bees will swarm on Sunday, and, aside from the example, it doesn't sound well to be shooting around when church-bells are ringing. **C. M. Hopkins.**

Port Gibson, Miss., Aug. 19, 1884.

Sneezewort seems this season to be quite a honey-plant, as we have received more specimens of it than ever before. Perhaps it will be well to have it engraved, so it will be more readily recognized.—I am glad to know that Bermuda grass is of some value, even if it does not yield honey. The best timothy or clover hay is not worth here any thing like $25.00 a ton. Friend H., why don't your people make a business of raising and selling hay from this same Bermuda grass? It seems to me I should like a chance myself, at the price you mention. According to Prof. Cook, we have no hope of getting honey from it, unless the ergot or smut gets into it. This reminds me that one of our men said yesterday, if I saved any ears of seed-corn having smut on them, it would perpetuate the same another year. If this is so, I suppose we can have honey-yielding Bermuda grass every season if we set about it.

ELEPHANT'S-FOOT.

Herewith you find specimen of a weed, upon the bloom of which the bees work with much vigor. Will you kindly tell me its name? **J. W. Jones.**

Coral Hill, Barren Co., Ky., Aug. 28, 1884.

This is not a clover, but elephant's-foot (*Elephantopus Carolinianus*, Willd), of the Composite family (*Compositæ*). It grows 2 to 3 feet high, branching. Flowers are violet purple, about 5 in a head; heads aggregated in glomerules, about 20 in each. The fruit (*cypsela*) is ribbed and hairy, with a pappus of 5 bristles; leaves alternate, somewhat hairy, oval-oblong, lower petiolate, upper sessile, the topmost subtending the glomerules, like an involucre. It is found in Pennsylvania, Ohio, Illinois, and southward, in rather damp, shady places, and blooms from July to September. W. S. DEVOL.

Columbus, O., Sept. 6, 1884.

BASTARD PENNYROYAL.

I inclose you a sample of a plant which grows in small quantity near my bees, and over which they are making a terrible ado this morning. What is it, and what is its value as a honey-producer?

H. C. LEWIS.

Laurel, Sussex Co., Del., Aug. 28, 1884.

This is bastard pennyroyal (*Trichostema dichotomum*, L.), a member of the Mint family (*Labiatæ*), and can be classed as a honey-plant. It is a low annual with many branches, opposite leaves 1 to 1½ in. long, and purple flowers borne in the axils of the leaves and at the ends of the branches. The flower-stems are curved, inverting the flowers. The stamens are much excerted, the filaments purplish, and curved toward the upper lip of the corolla, forming a graceful arch, and so placing the anthers that bees and other insects working on the flowers for honey will remove the pollen with the head or back, thus insuring pollenization. W. S. DEVOL.

Columbus, O., Sept., 1884.

PENNYROYAL, AGAIN.

I send you a small box by mail, containing a specimen of a wild honey-plant that grows all through this mountain country. The bees use it all day long from about the first of June until frost. I should like to have the proper name for it, and whether it is common throughout the country.

Spencer, Tenn., Sept. 1, 1884. H. C. COX.

This reminds me that pennyroyal has been many times noticed as a honey-plant. Can any of the friends tell us about the flavor of the honey? It seems to me it would be beautiful—similar to the California sage, for instance; and this reminds me that we have never had any pennyroyal on our grounds yet. I think we shall have to give it a trial.

WILD BUCKWHEAT.

I send a specimen of vine on which bees are now working a great deal. It grows on our lakes and wet places, running into the tops of the willows, 30 or 40 feet. Please give me the name of it. It is now in full bloom, and continues to bloom as the vine grows. W. S. LOGAN.

Keachi, De Soto Par., La., July 16, 1884.

This is Brunnichia (*Brunnichia cirrhosa*, Banks), a member of the Buckwheat family, and undoubtedly an excellent honey-plant. It is a smooth vine, climbing by terminal tendrils to 10 to 30 or 40 feet high. The greenish flowers, produced in April and May, are borne in terminal and axilary racemes, on slender pedicels. It is found along streams, climbing over bushes and trees, from Florida to South Carolina, and westward. W. S. DEVOL.

Columbus, O., July 23, 1884.

In closing our column of bee botany, it seems to me we owe a vote of thanks to friend Devol for the patient way in which he has worked and named all these plants sent him. I met him for a few minutes while at Columbus lately, at the agricultural grounds, and it makes me feel happy every time I think of the fine young men our State has been able to secure for the work. I feel happy to think we have an agricultural and experimental station on behalf of our farming interest. Then I feel happy again to think it is my privilege to perhaps help a little in the good work now and then.

THE ST. JOSEPH EXPOSITION.

THE BEE AND APICULTURAL DISPLAY.

THE sixth annual exhibition of the St. Joseph Exposition closed to-day. The weather was fine, the attendance large, and the displays in all the departments good. The amount of honey displayed in the apiarian department was not so large as last year, but the premium list was much larger and more comprehensive, and there was a greater variety of articles on exhibition. Increased space was given the department, and, at the suggestion of the superintendent, the Board had a space inclosed with wire cloth for the special display of the internal workings of a colony of bees.

The superintendent of the department, E. T. Abbott, of St. Joseph, got out a very neat eight-page paper, cut and pasted, in the interest of bee culture, and distributed two thousand copies of them during the week. It attracted considerable attention, and will, no doubt, aid the cause of advanced bee culture in the future.

There were three very fine displays of apicultural literature, which represented about all of the books and periodicals published in this country, besides a number of foreign publications. A number of parties supplied themselves with books during the fair, and a great many sample copies of different magazines were given out. It is to be hoped that the benefits of this may be seen in future displays.

Mr. E. Armstrong, of Jerseyville, Ill., had a very fine display of hives, honey, bees, etc. The neat and tasty way in which his honey was put up and arranged attracted much attention, and had a great deal to do in securing him a number of the first premiums which he received. We hope that others may profit by his example another year.

One of the things that attracted special attention was an Excelsior extractor, on exhibition by Mr. Newman, of Chicago. Mr. Newman not being present, the superintendent was kept busy explaining that it was not a "churn," an "ice-cream freezer," nor a "washing-machine;" all of which the ladies persisted in calling it, notwithstanding the fact that the name was plainly written upon it.

Mr. Alley's drone-excluder, which, by the way, reached here too late for entry, was carefully examined by many bee-men, and received much favorable commendation. Mr. Armstrong, of Illinois, and Mr. Parker, of Missouri, were kept busy manipulating their respective hives, and were surrounded by attentive circles most of the time.

But the event that attracted the most attention was the transferring, by the superintendent and Mr. Armstrong, in the manipulating-room, of a colony of bees from an old box hive, to one of modern make with movable frames. The transfer was quickly made, and excited the wonder and astonishment of many present, a large number of whom had never seen any thing of the kind before.

It may be worthy of mention, that among the exhibitors was a young lady who had a very find display of comb and extracted honey, and whose work indicated that she was up to the times in bee culture.

In conclusion we would remark, that the officers of the exposition deserve much praise for the encouragement and space which they gave this department. It is to be hoped that the action and interest of apiarists will be such in the future as not to cause them to regret it. APIARIAN.

St. Joseph, Mo., Sept. 6, 1884.

BEE-STINGS, SMARTWEED, AND SPIDER PLANT.

SOME FACTS FROM EXPERIENCE.

I HAVE 32 colonies of bees—five hybrids. My bees just doubled in colonies, and the 16 new swarms were simply prodigious in size. During the white-clover bloom they all (old and new) worked well, and filled their hives; but about the 10th of July they simply *quit*, and from then until about 3 weeks since they loafed and ate up their stores until I shall have to feed some of the later swarms through the winter. In fact, we have taken but very little honey—none to mention. Of course, they always stop during the latter part of July, and, during the fall, fill, and more than fill, all space given them. It was so year before last, and true to some extent last fall, and I think they would have done so this fall, but, for some mysterious reason, the smartweed with us has not bloomed. The whole country is covered with it, and, what is strange, is, that the blossom stays *unopened*, and has so remained for 4 or 5 weeks, until the seed is now forming. Neither have I ever seen the closed bloom so abundant. It is simply *shut* from the bees. Had it been open, I have no doubt that the crop of fall honey would have been large; as it is, it is a complete failure, although they carried in considerable.

What am I to do about getting a start of spider plant? I got seed from you twice last year, and from Newman this season, but not a seed has ever grown, although I have given it every chance. If you have "good seed," let me know, and I will send your money. I want to test it during the winter in my greenhouse. What else have you in the way of new honey-producing seeds? What of this California sage? What are you paying for a clear article of wax? Has not this generally been a failure as a honey year?

I notice the newspapers state that the red onion is a sovereign remedy for bee-stings; but, as you suggest, the delicate little shaft that does the mischief leaves no inlet in the flesh sufficient for a fluid, however volatile, to penetrate to the poison. When I am stung (even *touched* through a buckskin glove) I have to run and bandage my wrist, or in *one* minute I would be crazy from a burning, pricking, itching sensation, first beginning in the palms of my hands and the soles of my feet; it runs like wild-fire through my scalp, being particularly severe in and about all the nerve centers, until it has spread, almost instantly, all over my body. You can trace every vein and artery by the angry red they present, and, worse than all, my heart (although I have no disease in that organ) increases its beats to a palpitation of as high as 160 per minute. By great care I have avoided being stung anywhere only in my hands, and once this summer slightly, but with like result, on the foot. Never have I been stung more than by one bee at a time, and Heaven only knows what the result would be, if stung about my neck or head by a number. In two years I have suffered four times from stings in my hands. Ammonia is of no use, nor kerosene; whisky, taken inwardly, is the only antidote I have ever found. As for the onion, I don't know; but I doubt if it amounts to any thing. I like to handle bees, but am afraid lest something serious will befall me. I have met one or two persons who claim to be similarly affected when stung. What do you think of it? I know, of course, that it is the nervous system that suffers, but is it not exactly the same as the bite of the snake on a small scale? The venom of a rattlesnake is known to be *crotoline* poison. Can you tell me what the poison of a bee-sting is? Do you know of any one affected as I describe? Do you not think it dangerous?

I am addressing you from a personal standpoint, and perhaps have asked you more questions than is consistent with good taste. J. P. IRVINE.

Kirkwood, Illinois, Sept. 18, 1884.

Friend I., your honey-yield is about like ours, only that we very rarely have any fall pasturage at all. After the middle of July we do not look for any more surplus. The peculiarity of the smartweed you mention is something new to me, although many other plants have a way of omitting the blooming time, as it were (that is, they never show any petals). In our locality, Spanish-needles along the road-side, on dry ground, seldom show any petals or bloom, while in the swamp it is a sea of yellow, and it furnishes large quantities of honey. Was it not the dry weather that made the difference?—I do not understand the difficulty in getting spider-plant seed to grow. We raise it without a bit of trouble in our greenhouse, and it always comes up in the open ground all over our honey-farm, so that we get plenty of plants by just taking them up; that is, enough for a moderate patch every year. A correspondent has recently suggested, that seeds that will not grow otherwise will come up nicely if sown in the fall; that is, after lying in the ground all winter it vegetates freely in the spring. We have seed now that comes up nicely by testing. The plants are very hardy when once started.—Your experience in bee-stings is something very unusual. I have noticed the same symptoms, but never so severe as in your case. It strikes me just now that if I were you I would give up bees—that is, practical work among them. You may get over this, it is true; but I should be a little afraid, as you say, that a sting on a vital part might result fatally. I would far rather give up bees for ever than to think of taking whisky as a remedy for the bad effects of the stings. Better take the stings as the lesser of the two evils, even though they affect you as you state.—I have no faith whatever in onions. Newspapers, you know, are full of remedies. The poison of the bee-sting is, I believe, generally conceded to be formic acid. Very likely our homeopathic friends have another name for it.—Go on with your questions, friend I. I earn my bread and butter by answering questions, or by telling people where they will find answers to their questions pertaining to bee culture and kindred subjects.

HEADS OF GRAIN
FROM DIFFERENT FIELDS.

CALIFORNIA EXTRACTED HONEY.

I SEND you by express this day three samples of honey, marked 1, 2, and 3. No. 1 was gathered in May and June from silver and button sage, and is very light colored, and of fine flavor, as you will find. No. 2 was gathered in July, when the white sage was in bloom; and if there is such honey as white sage, the sample is it; but I have watched the bees pretty closely, and find very few working on it. At the time white sage blooms there is a great variety of flowers in bloom, and I think the bees find flowers that secrete more honey than the sage.

We have what we call wild alfalfa that is in bloom the same time as white sage, and the bees work very strongly on it. The honey is white, but very thick. If you let the bees seal their cards all over, it is impossible to extract it without tearing the cards all to pieces.

No. 3 is gathered this month, and is our amber honey, gathered from wild buckwheat and mint. The season closed the 20th of this month. We have had a fine flow of honey in the mountains. The apiaries in the valleys did not do so well, on account of fogs, which blasted the bloom.

I should like to send you a carload of honey the same as the samples; and if you wish to purchase, send me word what you can pay per pound for ten tons, and about the proportion of each kind you wish. If you take a carload, ten tons, terms one-half cash, after deducting freight; balance in ninety days. The honey is put up in five-gallon cans, 2 cans in a case, all new cans; have screw tops; tare on cans and cases, 15 pounds per case; cost us at Newhall, 95 cts. per case; that, we have to lose.

G. W. LECHLER.

Newhall, Los Angeles Co., Cal., Aug. 22, 1884.

One of the specimens furnished by friend L. was beautiful, white, and of fine flavor. That labeled "mountain sage" was also very nice-looking honey, and had a perceptible sage flavor, but not equal to some we have had. We are now paying for choice California sage honey 7 cts. per lb., delivered here, but I do not know how long we shall be able to take all that is offered at that price. The cost of shipping it to the States is generally 2 cts. per lb. Perhaps some of our readers who see this may help friend L. dispose of his honey at a better price than we offer.

THAT HONEY-FOG.

In regard to the article on page 604, we live in a prairie country; no trees near, but fruit-trees and shade; but this was on a wagon-road, clear away from any trees of any kind. I am interested in this honey-dew, and am certain that it came from no trees nor bugs. D. W. SPRACKLEN.

Cowden, Ill., Sept. 4, 1884.

Friend S., I do not know but I shall have to give up, as you state it, but I should like to see a clean plate or piece of glass put out, to see if any thing sweet would collect on it. Aphides may swarm in the air after having eaten of the foliage; but *this* seems rather improbable.

SOME QUESTIONS ABOUT CYPRIANS.

I wish you to answer a few questions for me concerning the Cyprian bees. 1. Are they as large as the Italians? 2. Are they as gentle? or what seems their disposition? 3. Their general appearance and color. 4. Can I introduce their queen to my blacks or Italians the same as we work with our own queens? I have seen these Cyprian bees, but am not postive that they are pure, as all parties are not just as reliable as one might wish. I ask these questions direct from you, as I feel you will tell me the plain facts about the case. C. H. CLARK.

Aldi, Monroe Co., Iowa, July 26, 1884.

The Cyprian bees are fully as large as the Italians. They are not considered as gentle, although Neighbor H. says he would rather handle them than any bees he has ever had in his yard. Their general appearance and color is like fine Italians. The yellow bands are very plain and distinct. The queens can be introduced just as well as Italian queens.

WHAT A LITTLE CARELESSNESS WILL DO.

I told you in one of the back numbers of GLEANINGS that queens might be killed by young virgin queens crawling out of cells thrown carelessly around the hives. Not long since I had a case of that kind myself. I was cutting queen-cells out of a colony crossed with Italians, Holy-Lands, and blacks, and left a cell lying on one of the neighboring hives. It was but a few minutes till I passed this hive and noticed that a queen had emerged; but, seeing nothing of her, I paid no more attention to it. The next morning I found one of my finest queens dead outside the hive. I knew then what had happened. It was all the fault of this queen-cell left lying on the hive. The queen gnawed out of the cell, and crawled into the hive, killing the old queen. I opened the hive, and heard this young queen squealing. I hunted her up, and killed her without mercy.

Bees are doing very poorly on basswood now. Some are killing their drones; weather is too cool and dry; a good rain is what we need.

Goshen, Ind., July 12, 1884. H. J. SCHROCK.

FRIEND HILL'S REPORT.

As the drought has put a stop to the honey-yield, I will give you an item of 6 colonies, spring count. Season opened up very brisk on apple and locust bloom; then the honey-dew, or bug juice, came on deck. This set them to swarming, which they did from the last of May till the 10th of June; got 3 natural and 2 artificial swarms. The natural will go ahead every time. In my opinion, the coming bee will be the Americanized, or home-bred Italians.

I passed through Medina one day this summer on an excursion. I wanted to stop, but had to content myself with what I saw from the platform. It is well named, the "Home of the Honey-Bees," and girls too, as I judged from appearances at the windows. Don't tell them. My expenses this season were $25.19; income on honey, hives, etc., $79.38; net profit, $54.19. C. L. HILL.

Dennison, Ohio, Sept. 8, 1884.

Thank you for the kind mention of our establishment, friend H.; but I am sorry that our boys and girls seem to persist in gazing out of the windows at passengers when the train arrives. Do not be too severe on them, however, for quite a number of them work by the piece, and, of course, they are then at liberty to stop and rest, or look out of the windows, and do it with a clear conscience.

SWARMING WITHOUT A QUEEN.

I see on page 590, you do not quite understand me, as I stated that the swarm had a few eggs which had remained in the hive two days; but, that doesn't affect the question under consideration, does it? It seems to be conceded that swarms are often *hived* without a queen; but friend Huffman's article left serious reason to think that perhaps they all had queens when they left the hives. The case I described settles that point, and their having the brood or eggs does not signify *very* much, as the custom of giving brood to new swarms is so general.

You think my use for ants (in getting aphis honey) is a little bit questionable. Well, I admit it is hardly practical, but the ants are such a nuisance, I mentioned that as a possible excuse for them. Guess I'll have to give it up, and try burning gunpowder in the ant-hills. **Burdett Hassett.**

Howard Center, Iowa, Sept. 6, 1884.

QUEENS MAILED SUCCESSFULLY FROM OHIO TO MUNICH, GERMANY.

I mailed three queens to Frank Benton in June. One was returned from New York; the other two arrived at Munich in about 17 days — one dead and one alive. The dead one was supplied with Good candy, and the one that lived had water in addition. However, the candy being too soft was, I think, the cause of the death of the one. I had a little frame of comb in each cage, to make them feel at home. In the one that was returned I had also added a piece of brood, to hatch in about 7 or 8 days; but when it came back the brood was dead. I don't believe we can improve much on friend Benton's plan, for he says he has lost only two of all he has sent to America. One was misdirected, the other chilled. He says mine was the only live one sent out this summer, and kindly offers to send me an imported queen for half price. Who can send them to Australia by mail, and have them arrive safely?

C. Weckesser.

Marshallville, Wayne Co., O., Sept. 11, 1884.

Friend W., I am inclined to think that friend Benton's success is somewhat owing to the small quarters he gives the queen and her attendants, and I am satisfied that we have made our cages for mailing bees not only larger than necessary, but larger than is proper for their best good. You will notice that the cage illustrated in our last number, page 584, has the apartment for queens and bees only 1⅛ inches in diameter, and perhaps ¾ of an inch deep. When they want more air they can go into the small apartment containing ventilating-holes; when they want food, into another on the opposite side. Friend Benton's wonderful success demonstrates pretty clearly that he knows what is needed. Our friends will notice on page 659 that friend B. alludes to the above incident.

A CAUTION IN INTRODUCING QUEENS.

The queens arrived safely on Sunday afternoon, and I did not think it wrong to put them into the hives at once — Sunday as it was. But I am sorry to say one of them got killed after introducing. It happened in this way: Son Charles and myself soon found the old queen and shut her up securely, as we thought, in a fruit-can with holes punched in it, for we had nothing better to put them in (that was what I wanted of the extra cages). We put the new queen in, and thought all was progressing lovely. Monday morning we concluded first to see how the old queens were getting on, but, to our dismay, found that one of them had escaped from her can. We at once went into the hive she was taken from. As soon as I saw the cage I knew the "jig was up." All your bees were lying dead in the bottom of it, and among them one which we took to be the queen. Do they draw up much after death? This particular bee, I thought, looked hardly large enough for a queen. Then we looked for the old queen, and in a few minutes found her flaunting about over the comb.

Now, Mr. Root, the fault is all mine, and I do not write to ask you to replace the dead queen; in fact, I am in doubt as to whether we ever found her corpse. We looked for a bigger dead bee in the bottom of the hive, but found none. We removed the cans containing the old queens about 50 yards distant to a work-bench, and left them all night. Upon examining the can from which the one escaped I found a crack through which she might possibly have squeezed. Sorry I did not clip their wings. **F. J. Bostick.**

Greenville, S. C., July 9, 1884.

The moral to your story is a good one, friend B. If the reigning queen is not destroyed before you introduce the new one, be sure you put her where she can by no possible means get back. They will squeeze through small holes, or dig out of the cage if they can, and they are sure to go straight home as soon as they get out. Quite a number have had trouble where they tried to introduce them to other colonies or to nuclei, but it is always risky to undertake to change the queen from one hive to another hive in the same yard. Be sure the old queen can not get back home when you introduce a valuable one. A queen that has been stung contracts in size so as to look almost insignificant.

SEED OF THE BLUE THISTLE.

In Gleanings, Vol. XI., p. 128, I gave an article on blue thistle, which brought letters from nearly all the Northern States, asking for seed. I had only a few ounces at that time, but I sent it in small packages as long as it lasted, to those asking for it, paying postage myself. I am inclined to think from the above that there are many bee-keepers who would like to try this plant as artificial bee-pasturage, if they could obtain seed. Now, I will send a limited quantity in packages, postpaid, with printed directions as to cultivation, for 15 cts. in stamps. This price will just about pay cost of gathering and putting up. These packets will contain a sufficient amount of seed to furnish plants for ½ acre of ground. If you will make the above facts known through your journal, free, I will send at above price; but if you require pay for the announcement, then I shall have to charge a higher price for the seed. As I am offering this seed only in the interest of science, I feel as though it should be sent at cost, or as nearly so as possible.

Bloomdale, Ohio, Sept. 5, 1884. **R. B. Robbins.**

Friend R., you may not be aware that we have had a small civil war almost every time the seeds or roots of blue thistle have been offered for sale. In my opinion, however, it is no more dangerous than the common borage, and either one of them may become a troublesome weed, I presume, especially on farms and in gardens where weeds are allowed to be troublesome. We have tried several times to get blue thistle to grow on our honey-farm, but it has all died out now, so we shall have to try again.

A SUBSTITUTE FOR THE HILL DEVICE.

Instead of the Hill device, use the cheap wooden plates and butter-dishes furnished by grocers, or two of the flat pint gift berry-boxes, with a notch cut out of the two sides that join when inverted over the top of frames.

To prevent wide frames with section boxes from sagging (I like to have mine sag), place 4 section boxes in one end of frame, mark the four edges of frame (in center) at side of boxes with a sharp knife, sinking the blade ⅛ of inch. Start a 2-oz. tack in center of top of frame; pass No. 30 wire around frame in the notches; fasten to tack, and drive it home; put in the other 4 sections, and let them sag. When they weigh one lb. each, cut the wire and see them drop out. This saves the bees carrying a large amount of propolis, and leaves the box clean. Small-fry bee-keepers can not afford a saw-kerf and a backbone of tin in the bottom-bar of the wide frame. H. M. HAWLEY.

Terre Haute, Ind., Sept. 1, 1884.

WHY ARE QUEENS BALLED?

The queen I ordered of you arrived in apparently fine shape, lively, and all right. I put her into a colony from which I had previously removed the queen, and in 48 hours I released her. Apparently, she was received all right; but, according to your directions, I looked again in about 20 or 30 minutes, and found her balled. I rescued her by means of smoker, and again caged her. The next day I repeated the operation, only I simply closed the hive, and immediately opened it again, when I again found the bees had balled her. I again rescued her, apparently all right; but on looking next morning I found her dead.

SWARMING OUT WITHOUT A QUEEN.

I received the copies of GLEANINGS, and see you have quite a controversy therein about whether a queenless colony ever swarms. Let me tell you what happened me this season. I had a colony of blacks from which I took the queen and 3 frames of brood and bees, and put them in a hive by themselves, to start a new colony. To the original colony on Saturday, June 28, 1884, I introduced one of your select tested queens. I released the queen on Monday following, and went to my office, as they had received her all right. About two o'clock one of the children came in breathless haste to tell me they had cast a fine swarm. I went home and hived them. The next morning I looked the original colony over, and found my queen, so I knew the swarm had no queen. I went over to where they were, and found them acting just as a queenless colony does—running hither and thither, apparently all on the hunt. That afternoon I received two queens from you for a neighbor, one of which he insisted I should give them, which I did, and to-day it is one of the finest Italian colonies I have. C. M. ROBERTS.

Chillicothe, Ohio, Sept. 9, 1884.

Friend R., I have been for a long time aware that opening a hive where the queen had been just introduced (especially if the bees receive her under protest) would often cause them to ball her, and I have seen such queens balled almost every time a hive was opened. They usually let them go, however, after a little time—not always, though, for sometimes they are killed just after the hive was last opened.—I do not know but we shall have to give up, friend R., so many cases are brought forward where bees have evidently swarmed with no queen.

BEES FOLLOWING THE QUEEN ON HER WEDDING-TRIP.

R. N. Leach, on page 599, asked: "What would bees that swarmed out with a queen on her wedding-flight do if hived?" I reply: June 21, 1883, about 3 P. M., I had a swarm issue with a queen 5 days old. I hived them inside of an hour, and gave them a comb of brood and eggs. Next morning when I went out (before sunrise), the bees were leaving the hive continuously, 3 and 4 at a time, going back to the hive from which they issued. I immediately looked the old stand over, and found the queen had returned, either late the evening before, or very soon that morning, as she was *certainly* put in the new hive with the bees, for I saw her go in, and I particularly examined the old hive an hour after I had hived the bees from it. This was an Italian queen raised in a hive of black bees from a single cell inserted in the hive. All the bees returned and left the comb of brood after about an hour, except, possibly, a dozen that remained on the comb of brood when I took it out. ABBOTT L. SWINSON.

Walter, Wayne Co., N. C., Sept. 8, 1884.

Friend S., an unfertilized queen is often up to so many antics that it is hard laying down any rules as to what they may do. In your case I suppose she trotted out as soon as it was light enough to see; and the bees being bent on following her, as is shown by their leaving on the day before, they deserted their comb and brood and went after her.

SUNFLOWERS FOR BEES.

My sunflower seed was supplied me by Landreth & Sons as "Russian Mammoth." All I can say is, that my bees,— blacks, hybrids, and Italians, and a few Holy-Lands,— work on the sunflower morning, noon, and night. During the recent dearth of food, and rainy weather, in ten minutes after the ceasing of a rain storm there would be an average of 6 to 8 bees on every sunflower. I spent hours watching, to make sure, and no pollen was gathered. My bees took all theirs from five acres of sweet corn I have. ARTHUR TODD.

Germantown, Pa., Aug. 21, 1884.

TURPENTINE FOR A FELON.

I have just read the felon cure published by Mrs. Myra L. Parson, on page 603 of GLEANINGS, and the astute manner in which you reason out the true inwardness of the recipe made me smile. You are indeed right. No turnip, wild or tame, has any thing to do with the cure; it is the turpentine, pure and simple. Wrap the finger in a rag, and saturate it a few times with turpentine, and the felon will be killed, provided it has not gone too far into ulceration. I speak from experience on my own fingers.

Terre Haute, Ind. T. H. KLOER.

Thanks, friend K. I was inclined to think it was the turpentine in the recipe given; but this could be determined positively only by trying the turnip alone; and then one should be very careful to be sure that relief did not come from some other cause. The application of heat alone, or a hot poultice, will often give relief to pain.

CALIFORNIA — A SWARM OF BEES WEIGHING 14 LBS.

Our bees are mostly blacks, though we caught several hybrid swarms, one of which threw off a swarm that weighed 14 lbs.; and a few days afterward, another strong swarm, all three of which are doing very well. Can you tell me how to find a queen in a hive? I have worked among the bees a great deal, and have seen only one queen so far. If I wanted to introduce a good queen I should not be able to find the old one. I send you a sample of our best honey.

A CRAZY SWARM.

We have had what I call a crazy swarm around here lately. They would not stay in any hive more than 24 hours, and would always swarm out the next day. One day they slept all night on the limb of a tree, and built a lot of comb. We gave them a frame of brood and honey, but they came out again. Had they lost their queen?

ALFRED W. HINDE.

Anaheim, Cal., Aug. 16, 1884.

I believe that 14 lbs. is a heavier swarm than I ever saw — that is, all from one hive, friend H. The sample of honey you send is not only beautiful in color, and nearly as white as water, but it is so thick it will hardly move when turned over, and yet the flavor is exquisite. If honey like this can be sent to us at the price of clover and basswood honey here, it seems to me we should be able to use almost unlimited quantities. The A B C book will tell you all about finding queens.

In regard to your crazy swarm, they have a queen or they would not swarm out as they do; but I think they must have got demoralized by being starved out repeatedly. Some years ago a swarm was found out in the fields, between two broad fence-rails. They had several pieces of comb and a little honey. After being brought into our own apiary they persisted in swarming out almost every day, do what we could with them. They would even swarm out when divided up and put among other colonies. I was so much annoyed by having people constantly telling me my bees were swarming, that I began to be sorry they were not left between the fence-rails. It seems to be a sort of mania that occasionally gets possession of a swarm after they have swarmed out several times.

NUCLEI AND YOUNG QUEENS.

In such extensive apiaries as the "Home of the Honey-Bees," how do you manage when honey fails in the fields, and the bees are ravenous, searching every nook and cranny for sweets, to keep your nuclei from being robbed and broken up? How do you manage to introduce your young queens to the nuclei, and prevent them from being destroyed, or, at least, a pretty large per cent of them?

Highlands, N. C. E. E. EWING.

Friend E., to avoid robbing in an apiary of 400 or 500 colonies, we take pains that every colony shall always be strong in bees and stores, even though used for queen-rearing, and also that the entrances shall be kept rather small. The alighting-boards we use favor this arrangement. During the past season, the honey-dew has kept the bees busy most of the time; and as they used the greater part of it about as fast as it was gathered, we don't apprehend much trouble in wintering. I believe our boys usually let the young queens, as they take them from the nurseries, crawl in at the entrance of the hive. We lose very few.

FERTILIZATION IN CONFINEMEMT.

Last fall I sold 4 stands of bees to one Mr. Stanford. One of them was such nice Italians that he concluded to raise a lot of queens from that queen, and when the queens were hatching he gave his father a queen-cell. When the queen hatched out he put it into a two-quart glass jar. When the queen was two days old the old man took an Italian drone and put it in the jar with the queen; and when he put the drone in at the top of the jar the drone began to fly, and the queen raised on her wings, and they met together in the jar, and fell to the bottom, and clinched together. The queen pulled away from the drone, and the drone was dead in a little bit.

SEVERAL EGGS IN A CELL.

Does a queen ever lay more than one egg in a cell, or does a fertile worker and a queen ever remain in a hive together? I had a hive this season with a good queen in it. Some cells had 3 and 4 eggs in hem. I had 5 fertile workers this season. I got rid of them by putting a new swarm in their place, and shaking the bees off the frames, and letting them go to the old stand. JAS. H. BROWN.

Cherokee, Ia., Sept. 16, 1884.

Friend B., I am aware that queens have been several times fertilized in the manner you mention, under a glass tumbler, or in something about the size, or a little larger; but it is so seldom that circumstances are exactly right, that it does not amount to any thing practically.—I have several times explained that a queen when cramped for room often lays several eggs in a cell, and this often indicates that she is a very prolific queen. She may be cramped for room by an insufficient number of bees to care for the cells, or the combs may be too much crowded with honey, as often happens during a sudden and heavy yield.

FROM 4 TO 40 IN ONE SEASON; SEE PAGE 599.

In regard to my report published in GLEANINGS of Sept. 1, I have always thought that a good report ought to be known, and the report I sent was for the encouragement of others. In making that report I was cool and collected, and have made no mistake in figuring, I can assure you, as I can give plenty of testimony to the facts in said report. I am not given to blowing, but I generally tell things as they are, and as I understand them. Our bees have not done much since the first of July; but at present, things are more hopeful. Illinois is a great State, and it goes to extremes in nearly every thing. GLEANINGS is a welcome visitor.

Berdan, Ill., Sept. 16, 1884. W. R. PINKERTON.

Friend P., I did not think of questioning your veracity, but I wanted to be sure we understood you correctly, as your statement might be understood in another way. From 4 to 40 in a single season, for a beginner, is certainly a little astonishing.

A QUEEN MAY LIVE, EVEN AFTER HAVING BEEN STUNG.

June 30 I had a second swarm of bees (the only two from 14 stands this season); hived them as usual; had queen; gave them a frame of brood; in a few days I examined, and found them queenless; supposed she got lost when out meeting the drones; gave more eggs and brood; hatched several; killed all; gave more eggs; hatched more; found them killing young queen. I then concluded to try them with a fertile queen; went to D. A. McCord and got one. By his advice, lest fertile workers were present I took a frame covered with bees from a strong colony, shook off all the bees, and gave them another frame entire, bees and all; closed them all in for part of a day, then releasing them. This brings us up to August 12. I then gave them the queen in cage between the frames; left her 24 hours; took out frame with bees; released and watched her until satisfied they would not injure her, and in about 4 hours I examined again, and found her balled; released and caged her again for another 24 hours; took out frame as before, and released her; balled her immediately; and, whilst in my fingers, and before I could get her in the cage, one of the little rascals stung her about the first yellow band, leaving its sting. I then thought she was "kilt entirely." I extracted the sting, however, and made a cage by pressing some wire cloth over the mouth of a glass can, trimming it around, leaving it about an inch deep; brushed off the bees from a space on the frame containing brood hatching out, and some honey; covered the queen with cage, and pressed it down close. I now left her for two days; looked again, expecting to find her dead; on first frame I found her released, and she laid several eggs while I was watching her. The bees burrowed clear under the cage and released her, and are since doing well. Now the query comes up, Did you ever know a queen to be stung and live, or is it a new experience? Friend McCord says it is new to him, and told me to ask you.

Not much of a honey season—an average of only about 30 lbs. Cause, dry weather. Crops also short from the same. JOHN COULTER, SR.

Oxford, Ohio, Aug. 28, 1884.

Friend C., I have seen queens recover after being stung slightly; and your incident is valuable, inasmuch as it bids us not to be in haste in deciding that the queen is injured.

WHERE DID THE QUEEN COME FROM?

One of my neighbors cut a bee-tree about five weeks ago. No queen was found, although several examinations were made, and no eggs were laid for some time; but eight days ago I examined two frames, and found the queen-cell capped; did not notice any brood or eggs, and to-day I made a long and careful examination; found no queen, but brood in all stages, from eggs in abundance, regularly laid, capped brood, queen-cells torn down, except one with a hole in end. Now, if they have had a queen-cell all the time, why the cells? The brood appeared to me to be worker-brood, with eggs laid regularly. We are puzzled; can you give us light?

D. D. LESTER.

Christiansburg, Va., Sept. 11, 1884.

I do not know how I can answer, friend L., unless I suggest the queen came from some other hive, and got in there accidentally at about the time you mention. I have known queens to be present when queen-cells were started, and when the queen began to lay, the cells were destroyed. Such cases are not very common, however. In your case, the queen would have had to be much older than the usually allotted time when she began to lay.

HOLY-LANDS AND COTTON HONEY.

I see by GLEANINGS for the last two years you have had several samples of honey—one of cotton from South Carolina, which you did not like the color or flavor of. I send you one sample of cotton honey, in the comb; also one of sumac, by to-day's express, in a bottle. The comb in the bottom of the bottle is cotton honey, and likewise the loose honey around the comb is cotton honey. The golden-colored comb, top piece, is sumac honey. Now try it. I think both kinds nice honey. You will notice one or two cells of dark honey in this comb of cotton honey, that is also cotton honey. So you see cotton honey is both very light and very dark, as it is made. You have asked if cotton always produces honey. Yes, but bees don't like to gather it, if they can get any thing else to make honey from. I had a Holy-Land queen mated to a black drone, whose progeny stored 20 lbs. of this cotton honey in sections for me during July last, half of which is as light as the sample sent you; the other half, as dark as those darkest cells—both the light and the dark all mixed along in the same sections. These Holy-Land black hybrids are the only bees among my 20 stands that stored any cotton honey, or any other kind of honey, during July; among the 20 stands I had pure Italians, Italian hybrids, and this one stand of Holy-Land black hybrids. Italians and hybrids stored surplus from sumac during August quite freely.

ABBOTT L. SWINSON, 17—29.

Goldsboro, N. C., Sept. 16, 1884.

Thank you, friend S. The sample of cotton honey you sent is very good. The whole family ate of it, and pronounced it good, even to baby Huber. The tart taste, after one is a little accustomed to it, we do not find unpleasant. The sumac has a very fine aromatic flavor. I am glad to hear that the Holy-Lands, sometimes at least, show themselves better at honey-gathering than the Italians.

GETTING BEES OUT OF A CHIMNEY.

Sept. 8, 1884, I discovered in the chimney of my house (about two feet from where I hived a runaway swarm of bees June 2, 1884), a colony of bees, with considerable comb and brood, and but little honey. I immediately put up a stove and started smoke. The bees being near or even with the roof, I took off the top of the chimney and went to work transferring, and sad work I made of it, as the comb became so soft I lost all the brood, and, worse still, the queen fell down the chimney on a comb of brood, and was killed. I left the hive as near the chimney as possible, and by keeping up a smoke I succeeded in keeping them out of the chimney, and the poor motherless things clustered in the hive at last, like a ship at sea, without anchor or rudder. But on the 17th I succeeded in getting a queen, and when I went to work to introduce her I examined them for a fertile worker, and found about 4 square inches of comb filled with honey and bee-bread. I then felt sure the coast was clear, and before I could get the top off the hive (Simplicity) the bees commenced to run over my hands and the cage containing the queen. I felt pretty safe in letting her out, and did so with her escort. They behaved themselves very nicely toward all of them. I immediately gave them feed; and an hour after, I saw the new queen walking around, very much at home. I have kept a watchful eye on them, looking after them daily, and never opening the hive but that I would see the queen. The bees were the hybrids; and as it was an experimental swarm for me, I, to make as little expense as possible, bought a black queen. Well, every thing was lovely until the 23d of Sept. Being from home the day previous, I did not get to examine them; and just before noon on the 23d, they, ungrateful things, took French leave. I suppose you will tell me I ought to have given them brood, but they were the only movable-frame hive I had. J. D. COLES.

Harrisonville, N. J.

Friend C., your job was a plain and simple one. What ever made you think of putting up a stove just to smoke those poor bees? I hardly believe I should call them "ungrateful things." It would have been a nice pretty job to have transferred them by just blowing a little smoke on them from the upper side, so you could get hold of the combs as you cut them out.

JACKETED BEES.

About the middle or toward the last of July I bought of you 6 one-dollar queens, which I immediately introduced to my black bees. After watching one of my hives for something over a month I thought I could see no change in the color of the bees, to indicate that the queen was a good one. Soon, however, I did notice that the young bees were hatching out, and that they were of a very dark yellow hue. On Sunday, Sept. 7, I was walking around this same hive when I noticed quite an uproar around it. My first thought was robbers; but upon watching a few minutes I saw it was only these young bees frolicking about. They came out, and rolled and tumbled in great glee. Presently I noticed they were getting rid of something. I still watched, and soon found that they were shedding their jackets. I called my wife to witness their performance, and we took several up in our hands, and picked this dark-yellow downy jacket off from them with our fingers, when they came out bright striped bees, just such as I had wanted. This jacket seemed to be a kind of web, and covered almost the entire body of the bee, and in shedding it came off from behind first, and the point just between the wings was the last to let go of the bee. I relate this, because it is something new to me. I find nothing in A B C that covers it. You say on page 40, "They have a white downy look until they are a full week old." But there you stop; you say nothing of their jacket coming off, which does away with this downy appearance.

Bees have done no good here since the extreme drought set in, the first of August. I am feeding some now preparatory to wintering.

Cutler, Ill., Sept. 28, 1884. W. T. WHITE.

Friend W., the bees you mention must be an exception to the general rule, I think. I have occasionally seen a young bee with a part of the cocoon adhering to his body, but I never saw any thing of that kind that would seriously change the color or looks. May be the combs the bees were hatched in had something to do with it.

APIARIAN EXHIBIT AT THE WORLD'S FAIR IN NEW ORLEANS.

I am asked by the Department of Agriculture, U. S. Government, to make an exhibit at New Orleans, in connection with the general collection of that department. The funds offered will not permit a large exhibit, so I shall aim to make it entirely instructive. I intend to show hives with all styles of approved apparatus to secure surplus, with methods of crating honey for shipment and market, and all kinds of apparatus necessary or valuable in the apiary. I shall be glad to hear from any bee-keeper who thinks he has aught of invention or suggestion that would aid me and the cause. A. J. COOK.

Agricultural College, Lansing, Mich., Sept. 26, '84.

All right, friend Cook. I am sure I congratulate the managers in having secured you for the task. Tell us what you need, and I am sure we shall all be ready to help you; in fact, I will donate whatever you want in the way of apiarian supplies that may be found in our catalogue, free of charge, and will ship to your order. If the other bee-friends see fit to do likewise, you will probably have all you can attend to in short meter, and lots of good will besides. By the way, a good many of us would like to know at what time, and how long, you will be present at New Orleans.

BEES (AND BEARS) IN WASHINGTON TERRITORY.

We have two swarms of bees, and they are doing pretty well; but as we have been dividing them up we have not taken any honey from them yet. The bees and express from Oregon cost about $18; that is, one swarm, and we have made two out of it. We got the one swarm in July, and I think bees will do all right in Washington Territory. Our neighbor had a call from a bear the other morning; but as the dogs got after him, the squirrels and birds set up a noise, and the bear got free. J. D. SEATON.

Ellensburg, Wash. Ter., Sept. 4, 1884.

GETTING A COLONY OF BEES OUT OF A TREE.

I and a friend found the bees in a tree some 70 feet high, the tree standing alone. We procured a rope of about 150 ft.; a man climbed a tree standing 30 feet from the bee-tree, and threw the rope over a limb where the bees were in, then fastened a pulley to a dogwood-tree about 20 feet from the bee-tree, fastening the rope thereto. A man was then fastened to one end of the rope. We hitched a horse to the other end, and pulled the man up, who then sawed the limb off, which fell to the ground without injuring the bees. The reason I write the above is, I think it was a novel way of catching a colony.

Oldensburg, Ind. JOHN H. HAVERKOS.

SEVEN AND EIGHT FRAME HIVES — WHY NOT?

My investments in hives and honey-bees have been small, but sufficiently satisfactory to decide me on going in a little deeper. But before doing so I wish to be sure that I have about as good hives, etc., as are going. My hives are the Simplicity, and I am much pleased with them, except in one respect. Why have them large enough for ten frames when seven are all that are needed for brood? Why not have them made for seven frames only, and raise all your honey above instead of at the sides? I put these questions, because I wish soon to order more hives of you; and if there are no good reasons for the contrary, I shall order them all made for seven frames instead of ten. It will cost more, but the difference will be a trifle, compared with the satisfaction of having in a hive just what one wants or wishes. BEGINNER.

Tuscaloosa, Ala., Sept. 25, 1884.

Friend B., a hive made to hold 7 frames would answer very well under many circumstances; in fact, 8-frame hives are considerably in use in some sections, friend Heddon using them, I believe, almost exclusively. Now, if anybody expected to have a second story ready for each hive at all times, these narrow hives would do very well; but many times a single story is made to hold a pretty good-sized colony of bees, and also to afford room for surplus. If it were made wide enough to hold only 7 frames, it could not be used thus. Again, where we undertake to winter a colony in Simplicity hives, as many do, we should have no means of putting in chaff-cushion division-boards as we now do with 10-frame hives. Last, and most important of all, these hives will not match with the great bulk of hives already in use. Hives are now manufactured all over the world by the hundreds of thousands that exactly fit the standard Simplicity hive, and it would be a rather sad mistake to start with another that would not match with those already in use.

BUCKWHEAT HONEY AND RED-CLOVER HONEY, AND THE BEES THAT GATHER IT.

DO ITALIAN BEES GATHER HONEY FROM RED CLOVER?

A NUMBER of times I have thought to give my experience with the Italian bee, in regard to their gathering honey from red clover, but have not done so, from the fact that the editor of GLEANINGS and the bee-keeping fraternity might think I was trying to palm off a free advertisement; and in no case would I do so now, if there were not so many bee-keepers who doubt that there is a strain of bees that will work upon red clover.

To convince you that this article is not written to advertise my bees and queens, I will make the statement that I can hardly supply my home call for queens. I was up with my orders, and had a few queens ahead, and, thinking that I would not dispose of them in time to give room for a lot of cells that were nearly ready to hatch, I inserted a little advertisement in GLEANINGS, and the results are that I have since received orders for 100 queens; and as I am breeding upon only a small scale I do not want to do any more advertising, as I can make more money in producing honey, which I have made a special business for the last 8 years, or ever since I commenced the business.

In our vicinity the farmers raise a great deal of red clover for hay and for seed, and this is not all; it is considered to take the least strength from the land of any crop known, as the immense roots which it sends down into the soil, when decayed, make the best of fertilizers, and will bring to life and revive up old and worn-out lands, thus making it desirable to the farmer to raise red clover for more than one or two purposes.

I will show any doubting bee-keeper, if he will take the trouble to visit me in August, hives full of honey gathered from red clover, and sections too; also the bees as thick upon red clover as ever was seen upon basswood or any other bloom.

At this date, Aug. 9, the most of my bees have gathered nothing of any account but red-clover honey, although there are thousands of acres of buckwheat in full bloom, and within easy access to my bees. The red-clover bees have not touched the buckwheat, nor brought in an ounce of dark honey. That all Italians will not work upon red clover, I am aware; for I have them, and as pure ones as money can obtain; and to-day, alongside of my red-clover bees, and in the same apiary, are storing dark honey from buckwheat. This I can show to any one who will visit me.

Not long ago I visited a prominent bee-keeper who had purchased a choice Italian queen of a noted queen-breeder, which cost him a five-dollar bill. She was as fine a queen as I ever saw, and had beautiful gentle workers, but they were storing nothing but buckwheat honey, while by its side sat a colony of well-marked and beautiful Italians, whose hive was running over with white honey gathered from red clover. Hundreds of acres of buckwheat and red clover were in bloom in the vicinity, and no other bloom of any kind could be seen. Now, why this was, I do not know.

I have never examined the difference in the length of the bees' tongue, so I can not say why it is that some bees will have a preference for red clover, when other bloom is in abundance, where the nectar could be much easier obtained. I have never yet had a pound of honey gathered from red clover by black bees. I have this season 90 colonies of blacks, located in a vicinity where red clover abounds, and they have been in a starving condition until buckwheat bloomed; while my Italians have gathered and stored red-clover honey in sections through July, the blacks, equally strong, had to be fed to keep them from starving. That there are Italian bees that will store honey largely from red clover while others of the same race will not, and that black bees will starve while Italians are storing a surplus, is a fact, for I have seen them in the same yard, and under my personal supervision.

Gallupville, N. Y. F. BOOMHOWER.

STARTING AN APIARY. NO. 2.

SUGGESTIONS TO THOSE GOING INTO THE BUSINESS.

THE science of bee-keeping (for science it is, or, at least, it is only by the application of the sciences that it can be made a success), is not a matter that can be learned by rote, or that can be taught specifically. It is composed of little things, which, while they seem insignificant in themselves, when massed together are found to form a harmonious structure which would be incomplete, were any one of them left out or neglected. It is not enough to learn the habits and customs of the bees. A person may be a thorough entomologist, and yet prove unsuccessful as an apiarist. One must have a knowledge of floriculture as well, and be able to apply that knowledge to the locality in which he is situated. It is well for the bee-keeper to be something of a mechanic; for while ordinarily he can purchase hives and supplies cheaper than he can manufacture them, still there are times when the ability to construct a hive, a set of frames, or a section-rack, will come well in play. Many persons wholly unfamiliar with apiculture in any of its parts are surprised to see with what ease a skillful operator will hive a swarm or perform any of the simple or complicated manipulations at times found necessary; but when they learn that a honey-bee when filled with liquid sweets will never volunteer an attack, and that a small puff of smoke blown directly into the entrance of the hive will so alarm them that they will at once fill themselves to the full with honey, that which to them was a matter of mystery becomes as plain as the sun at noonday.

The beginner who has prepared himself by study of the hive and honey-bee, and has procured two or three colonies of Italians in frame hives, will wish to know in the first place where he shall locate his apiary. In making this selection he should choose a spot where his hives will face as nearly as possible to the south, and the east of south, rather than the west, in case they can not face due south. The hives should be set close to the ground, and the plat in front should be kept clean and free from grass and weeds. The location should be dry, and should allow of the bees descending to their homes, rather that ascending when coming in heavily laden with nectar. A tight fence or hedge should protect the north and west sides of the apiary from the cold and piercing winds of winter, and, if possible, the hives should be shaded from the scorching rays of a noonday summer sun.

After establishing the apiary in a suitable location (if not done before), the flora of the whole region within flight-range of the bees should be thoroughly studied and learned. This should be done as a matter of economy, for, if known, it will be known also when to put on and take off sections, or when to extract and when not to; and, also, what is of far more value, to know just when to feed and when to stop feeding. The rearing of brood and the gathering of honey always go hand in hand together. When one stops, the other stops also; regular daily feeding in small quantities will, however, keep brood-rearing going on, and by this means colonies are kept strong and ready to gather honey when secreted, when, if they were not so fed, they would hardly be able to gather enough stores for their daily wants. It is exceedingly fortunate that the honey-bee has few diseases and few enemies, else it would long ago, in all probability, have become exterminated. The *worst* enemy of the honey-bee, unfortunately, is man himself. The beginner who skims the surface only, in his preparatory studies, is the cause of many losses, and that, too, without being aware of it. Constant manipulation of the hive, whereby the brood-nest is broken up, is one means of injuring an apiary. Lack of knowledge in regard to the fundamental principle, that it is only strong colonies that can be perpetuated, and neglect of feeding at proper times in order to keep these colonies strong, is another and a great cause of loss; but it is in the matter of dividing where failures are largely made. The novice has learned that a colony can be divided and subdivided several times in a season, and proceeds to build up a large apiary (in numbers) from a few colonies, and considers himself a bee-keeper in so doing; but on the following spring he is exceedingly surprised to find his bees a minus quantity, laying the whole trouble to ill luck, dysentery, bad stores, or some other cause of the kind, not once imagining that his ignorance is the cause, and the cause alone.

Bee-keeping, however, can be learned, and learned thoroughly and well; and when learned there is no other business or occupation that will pay so large a profit on the capital invested, in ordinary localities even; and in some localities it will pay a profit that even a Gould or a Vanderbilt would not turn aside from. To obtain this profit, however, will demand the whole time of the apiarist; hands and brain must be kept constantly busy, both early and late; and unless one has a particular aptitude for the work, and has fitted himself therefor by careful and thorough study and preliminary practice, instead of these profits he will surely "come out of the little end of the horn."

Study, too, should not end with the reading of text-books. The science of apiculture is progressive and progressing, and unless one desires to be constantly a tardy follower in the rear, he should subscribe for and study some one or more of the various bee journals now published; and among which I can heartily recommend **Gleanings** as one of the best. He should not be satisfied with simply reading the views, ideas, experiences, and inventions of others, but should, from time to time, give to the public a history of his own experience; by thus doing he will not only get good, but will do good, which latter will always prove a source of happiness. **J. E. Pond, Jr.**

Foxboro, Mass., Aug., 1884.

SHIPPING BEES TO FLORIDA.

THE WAY FRIEND ASHMEAD DOES IT.

FRIEND ROOT:—I have again started another lot of bees from here to my Florida apiary; and as I so frequently receive letters in reference to the shipping of bees, I will give you a description of how I ship so successfully.

I ship in six-combed hives made as follows: Two end-pieces, 9 x 9¼ x ½-inch stuff; sides, 19 x 9¾ x ⅜-inch stuff; bottom and top, 19¾ x 9¾ x ⅜-inch stuff; 2 end-pieces 9¾ x 2½ x ⅜-inch stuff (these act as handles as well as making the grooves for the frames). In the top, or cover, I bore 3 or 4 holes with an extension bit 3 inches in diameter, which I cover with wire cloth, as also the bee-entrances in the ends of the hives. This gives plenty of air. I also take the precaution to nail two small ¼-inch strips on the top of each hive, so in case they are piled up there will plenty of air get under each.

I use all-wood L. frames, and nail each end securely with wire nails (I really believe they would go safely to Europe packed in this way). The boxes weigh about 6 lbs. each; or a good swarm completley packed, weighing from 18 to 22 lbs., according to the amount of honey, bees, box, and 6 combs, without honey, weigh about 14 lbs.

WINTERING AND BREEDING QUEENS IN FLORIDA.

I sent mine down last fall, and had them returned in June (through Uncle Sam's mail-bag), and they have done well. The early breeding in Florida did not stop their breeding here (for if any thing they have bred too much); so on that point, queens can be safely wintered in Florida, and returned north in the spring.

I will inform you on other points in regard to bees in Florida at some future time. I wish to get the facts *solid* before doing so. T. G. ASHMEAD.

Williamson, N. Y., Sept. 24, 1884.

REMINDERY.

NO BROOD NOR EGGS; DOES IT INDICATE ANY THING WRONG?

WILL you please give your advice or opinion on the following case? I have 40 colonies of bees all in the same predicament—no brood, no eggs, very little pollen, plenty of honey. In talking with another bee-man to-day who has 30 colonies, he stated the same condition of his—no brood, no eggs. Now, what is the cause? How can it be remedied? If no brood can be started this fall, are not the bees on hand too old to winter? Now, I give my idea: We have had such a drought since the first or 10th of August, that there is not a blossom of any kind for the bees to gather honey or pollen; also a scarcity of water. Now, would feeding some sugar syrup, rye flour, and water, help the matter? Your opinion will be appreciated. JAMES HESS.

Freysbush, N. Y., Sept. 24, 1884.

Friend H., I have for many years noticed bees in just this predicament; and I believe that, as a rule, queens generally stop laying toward the first of October, unless honey is coming in largely, which is not the case in most localities. At first I feared, as you say, that the old bees could not hold out unless some young ones were reared. These broodless colonies were marked; but, contrary to my expectations, they wintered just as well as the others; in fact, some that had a rather small cluster of bees had about that same cluster in the spring, although no eggs were laid for a period of perhaps four to six months. It is true, they were not strong colonies, and it took some time to build up in the spring; but when they got at it they seemed to come right up surely and safely.—Of late, a good many have thought that colonies without any pollen wintered best, because brood-rearing is seldom started unless there is pollen in the hive, and therefore there was no brood until pollen came. I think I would a little rather have some brood hatched out this month; and feeding a little regularly every day will usually induce this; but after they have reared this lot of brood in October, I should prefer to have them nearly destitute of pollen, and not commence brood-rearing, or, at least, not much of it, until March or April.—For years we have had complaints from beginners during the last of September and October, that their queens would not lay, and some of them have even ordered new queens, replacing the old ones when there was nothing wrong at all, only they had never noticed that queens mostly stop laying during this month, so they imagined something *must* be wrong. Young queens just fertilized will often raise quite a lot of brood during October, using up their stores of both honey and pollen. Of course, it is not much matter about the pollen. If their winter stores are thus made low we should look to it and fill the hives with sugar syrup. Sugar is so low now there can be little excuse for letting bees starve. Sometimes it is quite difficult to get queens to lay, even by feeding during October and November, and but a few years ago I marked several of these queens to see if they began laying all right in the spring. They did in every case. One of them was a queen so old that I feared she had passed the period of egg-laying. Although I fed the colony for a couple of weeks daily, she would not lay a bit. She raised a good lot of brood in the spring, however, without any trouble. A great many beginners pronounce their hives queenless, and order another at this season, when the only trouble is, that the queens have closed business for the season, and have got so small and insignificant looking in consequence, that the novice overlooks them as they skulk about among the bees. Now, do not be in a hurry to decide that the hive is queenless at this season of the year, and do not be in a hurry to imagine something wrong with your queens, should they behave just as friend H. says his do, in the letter above. If there is plenty of sealed honey or sugar syrup in the hive, the absence of eggs, brood, and pollen, would not do any harm; in fact, where there is a tendency to bee-cholera, I am inclined to think they will winter all the safer. The great losses in the spring usually come with hives that have begun rearing brood largely in the fore part of winter.

REPORTS DISCOURAGING.

I SEE by GLEANINGS that there are some very good reports; but if the bee-men of this county are not in Blasted Hopes, I can not tell what it takes to put one there. It has not rained enough here from the 20th of May to wet the ground 2 inches deep. I dug a hole in the ground about 2 ft. deep, and it was as dry at the bottom as at the top. Bees have done no good; 9 colonies gave 20 lbs. of surplus honey, and not one new swarm. I know two men who have 45 or 48 colonies, and did not get 100 lbs. of honey, and are compelled to feed, so that their bees will have enough to winter on; and I am in the same boat. Oh how blue! If it had not been for the aphides, there would not have been any thing scarcely. But we all hope that next year will be a good one. J. A. HEICHERT.

Newcastle, Ind., Sept. 13, 1884.

We have had no rain that amounted to any thing in about three months; but the bees have filled their combs with beautiful white honey; some has a rank, weedy taste, and some other is so strong and peppery it will burn in the mouth for hours. We have a big white milkweed and a Spanish needle, yellow blossoms, from which I suppose the honey is gathered. MRS. R. S. HOUGH.

Mastersville, Texas, Aug. 30, 1884.

Bees have done nothing to speak of, in this section of the country, this summer. They did well in the spring until June, when it was very hot and dry. Basswood bloom lasted only 3 days; no second crop of white clover; buckwheat and goldenrod a failure; from 44 colonies we shall not get 44 lbs. honey. A. R. SAUNDERS.

Battle Creek, Mich., Sept. 22, 1884.

WHAT SHALL WE DO WHEN BUSINESS IS DULL?

A PRACTICAL SUGGESTION.

WELL, I will tell you what we are doing here — tinners, wood-workers, painters, packers, and hands working about the different parts of the establishment. A good many of the hands have left—a hundred or more; but those whom we can not well spare when business comes again are now employed out on the grounds digging ditches and laying tile. With the abundant rains we have had for the past few weeks, and the beautiful warm sunshiny weather, things are growing wonderfully. Our buckwheat was injured considerably by the drought, it is true, but it bids fair now to make a part of a crop. While walking among it I found a particular spot where figwort, or Simpson plants, were coming up and growing with wonderful vigor, and we are now taking them up and planting them on some of our best ground, underdrained, subsoiled, and heavily manured with fine old stable manure. And, don't the strawberries grow? It seems as though I never saw any thing in my life so handsome as our 2000 young plants. The old patch in the rye stubble I told you about, under the influence of manure, irrigation, and good loving care (I want to put in that word "loving," because the way to make any thing grow and thrive is just to have a genuine love for it) is just wonderful. It seems to me I never spent any happier hours in my life than in that patch of strawberries. We have got potted plants from it without number (three or four "generations" of them), and now we are starting lots of them on Doolittle's plan, between the old plants, without putting them in pots. Two wagon-loads of fine, well-rotted stable manure was spread around under the foliage and right up about the roots, just before the recent rains, and now the deep rich-green leaves are of such a size that one wonders how they can be strawberries, and they are admired by almost every one.

We are now having green peas in the lunch-room that were planted about six weeks ago; and if the frost holds off we shall soon have some "roasting ears" from that patch which we planted to give the bees pollen.

Different varieties of fall turnips are making a show of ornamental foliage almost equal to the "catnip" I told you about; and a fine bed of round-leaved spinach is just beginning to show what *it* can do.

Our 4000 little basswoods, right next to the house, and near the road, are also making a delightful show with their bright green leaves. In between the rows, string beans are now just fit to pick. Who would not have a fall garden? Most of the bugs and insect enemies that we fought a month or two ago, skipped off on account of a light frost, and now we have every thing our own way. If it rains every day and every night, even our *low* ground does not get flooded any more, because, you see, the underdrains are taking care of all that, and the subsoil plow fixed the ground so that not only does the water go down out of sight, but the roots of all these plants do likewise.

Haven't you a place, dear reader, that can be improved by underdraining, so that you too can have fresh products from the garden, growing right under your own eye, and the work of your own hands, as well as we here at the Home of the Honey-Bees?

Oh! I forgot to tell you about the spider plants. They are growing as they never grew before, and the peculiar odor which the bloom gives out very early in the morning fairly makes the air heavy in their vicinity. If you want to see any thing in the vegetable and floral world to perfection, give it a deep rich soil, and *insure* it from damage by too much water, by underdraining.

A fall garden is attractive to the eye, because it is a little unusual, and one would be surprised to see how many things there are that can be put out in the fall as well as in the spring, if he looks over the list. One great reason for starting things in the fall is, that most people have more leisure then than in the spring when every thing is crowding. In fact, during October there is usually loafing enough done to make a beautiful garden, if these loafing hours were utilized. Raspberries, strawberries, blackberries, and grapevines, may be put out in the fall at our leisure, and the ground may be nicely prepared for them, because there is no hurry. The two former, and perhaps blackberries, may be made to make a nice growth in the fall months; and if well mulched, this growth will be of great benefit in the spring. In Henderson's fall catalogue he gives a list that may be sown in the fall, and it includes beets, cabbage, carrot, cauliflower, kale, lettuce, onions, radish, and spinach. Among the bee-plants, if protected by mulch, as I have explained, we may sow figwort and spider-plant seed, seven-top turnip, all of the clovers, catnip, motherwort, and perhaps a good many others that I have not got hold of yet. The spider-plant seed will not come up till spring, and much of the figwort probably the same way, as well as other seeds that lie over winter. Then if you want something to look pretty with its bright green before the snow goes off, put in a little patch of wheat and rye. If you are interested in wheat-raising, some experimental plats of the choice varieties will, by little expense, tell you what wheat is best adapted to your soil and locality.

KIND WORDS FROM OUR CUSTOMERS.

Your smoker is at hand, and I have tried it to my satisfaciion, and am greatly pleased with it.
Wilmer J. Moore.
West Grove, Pa., July 29, 1884.

OUR SECTIONS THE PRESENT SEASON.

Those 4000 sections are at hand. They are the nicest and best I ever had. Your new way of cutting the grooves makes them much easier to fold. I folded 500 in 38 minutes, without making the corners damp.
H. J. Schrock.
Goshen, Ind., July 12, 1884.

Convention Notice.—The Northern Ohio Bee-Keepers' Association will hold their next meeting in the Council Chamber at Norwalk, O., Wednesday, Oct. 15, 1884. **H. R. Boardman, Sec.**

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, OCT. 1, 1884.

And God said, Behold I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat.—GEN. 1: 29.

JUST 7057 subscribers is what we number now.

IN speaking of portulaca in our last number, we meant to say that our entire plat was one roar of bees, instead of any particular hive.

THIS first day of October we have strawberries in bloom, and bees working on the blossoms; also berries half grown. Don't you wish you had some?

THERE were a good many fine samples of nice honey at the State Fair, but there was considerable complaint of damage done by honey-dew, although I believe no reports were so bad as in the neighborhood of Lorain County. In many places in that vicinity the honey-dew honey was extracted by the ton, as we have before mentioned.

HONEY-PEAS.

OUR honey-peas have been growing and growing, and now they are a perfect swamp, and not a sign of a blossom. If they are not good for honey, it seems to me they would be the grandest thing to turn under. There is a wonderful mass of leaves and stems, but I do not know how we are to expect any honey unless they get at it and bear some "posies."

CYPRIAN QUEENS JUST IMPORTED.

WE have just received from Frank Benton a couple of Cyprian queens in splendid order, shipped by means of that inimitable candy of his. Even though they were sent by express in a little hive having combs not unlike Bianconcini's, the principal food consumed on the way was this candy. Neighbor H. has one of them, and declares he is going to have young queens yet this fall; and if this beautiful October weather holds on, very likely he will have.

EXTRACTORS THAT THROW HONEY OVER THE TOP OF THE CAN.

ANY of our customers who have a machine, purchased of us, that is guilty of the above naughty trick, are requested to let us know, that we may remedy the defect, free of charge. Where parties use a frame, however, longer than the one for which the extractor was ordered, we can not hold ourselves responsible; but where the dimensions of the frame were given at the time of ordering the machine, no honey should ever fly over.

BEE-KEEPING IN INDIA.

THROUGH the kindness of Mr. Bunker, of Tongoo, Burmah, India, we have received a neat little handbook entitled, "Bee-Keeping for India." It is published in 1884 by J. C. Douglas, of the Indian Government Telegraph Department, Calcutta. It takes up the whole subject of bee-culture, and brings it pretty nearly up to the present day. The culture is adapted to the *apis indica*, which has been heretofore mentioned in our columns. This is said to be no more difficult to handle than the English black bee. The hive recommended is very near on the plan of our chaff hive. A simpler form, quite similar to the Simplicity hive, is also recommended. The appliances for comb honey are about what we use. An extractor, to be run by a belt, is figured. We are glad to note that the improvements in bee culture are soon destined to be carried to every part of the civilized world.

ADVERTISING ONE THING AND SENDING OUT ANOTHER.

THIS is a grievous fault, and one might be excused for saying that none but a dishonest firm would permit such a state of affairs. I think a little charity, however, should be exercised. In our counter-store business we expect to be able to ship all articles that are advertised from year to year, and to give a customer the same thing that we advertise, or the same thing he has had heretofore, every time. Well, a while ago we were offered wooden toothpicks, 2500 in a package, so that we could sell them on the five-cent counter. Before venturing to advertise them we purchased a lot of them so large that the stock had to be stored in the warehouse, and I was afraid we should never sell them all, even at five cents for 2500. To my surprise, however, they were gone before we knew it; and although I ordered more of the same kind from the same firm, they sent me some put up in a nicer box, but the box contains only something like 250 instead of 2500. The reason given was, the firm was made so much trouble by the boxes breaking to pieces, and a better box could not be made without more money. In fact, it takes a good part of the five cents to make a box that will bear handling and shipping, for the first boxes did make *us* a good deal of trouble by breaking to pieces and scattering loose toothpicks over every thing and into every thing. The state of affairs came about during our great rush of business, and the best we could do was to send out the new toothpicks in place of the old ones. I told the clerks we must make an explanation; but the explanation could not be made in few words; and if we made such a one as I have given above, with every box of toothpicks sold, it would cost more than the profit we made on them; therefore a great many orders were filled without any explanation, and some who expected to get a large box full for his money got but little more than a tenth of the number we advertised, and very likely decided that A. I. Root was a cheat and a fraud. Please do not be in haste to think evil, dear friends, especially when you are making *five-cent* purchases. Please bear in mind that it is extremely hard to make long explanations on a transaction like this.

MAKING YOUR HOMES ATTRACTIVE.

WERE I to come and visit you now, friends, how many of your apiaries, gardens, dooryards, etc., would I find looking as neat and tidy as in early summer? Whenever I am riding out, either in the cars or otherwise, I always watch anxiously for glimpses of pleasant-looking homes. But, alas! How seldom do we find them looking nice in the fall of the year, especially during such a season of drought as we have just had. The gardens, oh dear! what looking places they are! weeds and rubbish and filth and untidiness. The greater part of them look as if the owner had lost all interest in the work which he no doubt took up with enthusiasm a few months ago. Now, why not go into winter with every thing neat and tidy and clean? Pull up the old pea-vines, and put them in the compost heap. As fast as green corn is taken from the stalks, pull these stalks up by the roots, and give them to the cattle or horses. The corn is worth very much more for fodder just as soon as the ears are plucked than it will be after it has dried up; besides, just as soon as you have gathered the crop from any plant, if the stalk remains standing it is virtually a weed, exhausting the soil, and eating up the manure that perhaps has cost you quite a little. If you have not time by daylight, do it by moonlight; and there are few people who are not benefited by just such outdoor exercise. Let passers-by know that some one lives on that spot of ground. Make your children love the sight of home better than any other place on earth. No matter if you have money in the bank, you will enjoy life better to gather up the odds and ends and make every thing count. If you are poor, and in debt, *by all means* gather up the odds and ends, and let nothing go to waste. If your health is poor, no city doctor, even though you pay him twenty-five dollars to look you over, can do you as much good as that outdoor work in the dirt and in the open air, with the prattling little ones by your side drinking down the example you set them.

CONVENTION NOTICES.

The Bee-Keepers' Association of Central Illinois hold their next meeting in Bloomington on Wednesday, Oct. 8, 1884, at 10 A. M.

WM. B. LAWRENCE, Sec'y.

The Boone County Bee-Keepers' Association will meet in the city of Lebanon, Ind., October 11, 1884. All bee-keepers are cordially invited to attend.

S. H. LANE, Sec'y. ORA KNOWLTON, Pres.

The Northwestern Indiana Bee-Keepers' Association will meet at La Porte, in Lay's Opera House, Oct. 22, 1884. A. FAHNESTOCK, Sec.

G. R. TYRELL, Pres.

The Tuscarawas County Bee-Keepers' Association will hold its next meeting at the factory and apiary of Geo. F. Williams, New Philadelphia, O., Thursday, Oct. 23, 1884. GEO. F. WILLIAMS, Sec.

A. A. FRADENBURG, Pres.

The second annual meeting of the Pike County Bee-Keepers' Association will meet at the Pittsfield House, Pittsfield, Ill., on Saturday, Oct. 11, at 10 A.M. A cordial invitation is extended to all.

T. C. BUNKER, Sec'y.

The next session of the North Am. Bee-Keepers' Association will be held in the city of Rochester, N. Y., the 28th, 29th, and 30th of Oct., 1884. A full programme will be prepared, and a general good time may be expected.

L. L. LANGSTROTH, Pres. C. C. MILLER, Sec.

NORTHWESTERN CONVENTION.

The Northwestern Bee-Keepers' Association will hold its fifth annual convention at Owsley's Hall, N. W. corner Roby and West Madison streets, Chicago, Ill., on Wednesday and Thursday, Oct. 15 and 16, 1884, commencing at 10 o'clock A.M. on Wednesday, and holding five sessions.

Those who have attended one of these annual reunions at Chicago will need no urging to induce them to come again; those who have not, should remember that Father Langstroth characterized the last meeting as representing the largest number of large, practical, and successful honey-producers of any convention that he had ever visited. This meeting being held during the Inter-State Industrial Exposition, reduced railroad fares may be had on nearly all the railroads. C. C. MILLER, Pres.

W. Z. HUTCHINSON, Sec'y.

The Northern Indiana and Southern Michigan Bee-Keepers' Association will hold its next meeting at Goshen, Ind., Oct. 3, 1884, at 10 o'clock A. M. Important topics concerning the management of the apiary will be discussed. A portion of time will be devoted to answering questions, from the query-box. Several distinguished bee-keepers are expected to be present. A very full attendance is anticipated. A. BLUNT, Pres.

TO BEE-KEEPERS.

The 7th annual Convention of the Northern Michigan Bee-Keepers' Association will be held in Shearer's Hall, in Greenville, Oct. 6 and 7, commencing at 10 o'clock A.M. The Greenville fair occurs at the same time, and a good attendance is expected. Bring samples of honey, sections, crates, useful tools for the apiary, hives, bees, queens, and, in fact, every thing that has proven by actual test to be useful to you, and let us all have the benefit of it. Bring a list of questions for discussion, seeds of honey-plants for sale or gratuitous distribution, and honey-plants for exhibition. Be prepared to give results of the year's work in your neighborhood, that we may compare notes, and profit by each other's experience. Lastly, remind your bee-keeping friends often of this meeting, and go prepared to give and get information, and bring home a premium for your exhibit at the convention and fair.

S. J. YOUNGMAN, Pres. F. A. PALMER, Sec.

PUBLIC SALE
OF BEES.

On Tuesday, October 14, 1884, I will offer for sale 100 colonies of Italian, Holy-Land, and Hybrid Bees in Mitchell hives, in Lagrange County, Ind., 8 miles north of Ligonier, and 11 miles east of Goshen, at Schrock's Mills. Terms, $4.00 and under, cash; over $4.00, a credit of 10 months, the buyer giving his note with good freehold security.

19d **J. C. MISHLER, Ligonier, Ind.**

UNPARALLELED OFFER. Warranted Italian queens only $100. Address S. F. REED,
19tfdb North Dorchester, N. H.

BEES. BEES.

A number of full colonies of Italian bees for sale at $7.00 a colony in good hives; frames, 12x12, and stores enough for winter. H. H. BROWN,
19d Light Street, Col. Co., Pa.

VANDERVORT
COMB FOUNDATION MILLS.

Send for samples and reduced price list.
tfdb JNO. VANDERVORT, Laceyville, Pa.

2,000,000 STRAWBERRY PLANTS.
1 000 000 RASPBERRY PLANTS.

Besides an *immense* stock of **Fruit Trees, Russian Mulberry, Kilborn and Wager Peach, Blackberries, Grapes, &c. Catalogue Free. Purdy's Fruit Recorder** from Sept., 1884, to Dec., 1885, for only One Dollar. **Purdy's Small Fruit Instructor,** tells all about planting, growing, marketing, etc., for only 25 cents; cloth covers, 40 cents. **Splendid Terms** to Club Agents and those who wish to sell our stock. See our Catalogue before buying elsewhere, and send us a list of what you want, with number of each, for us to price. Marlboro raspberry, 50 cts. each; $5.00 per dozen.

18-19-20d **A. M. PURDY, Palmyra, N. Y.**

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

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KIND WORDS FROM OUR CUSTOMERS.

The Italian queen bought of you is in good condition, and about twice as large as when I got her. I hope to start next spring with Italio-hybrids, at any rate. **

Although I do not keep bees at all, I like your paper very much. God give you good words for our *young people*, is my earnest wish and prayer.
Chardon, O., Aug. 28, 1884. A. S. HOVEY.

A GOOD REPORT FROM THE PELHAM MILL.

I had a foundation-mill from Mr. Pelham, of Kentucky, some time ago, as he was selling cheaper than you. It may not be as good as yours, but I like it very much. J. O. BELLEFLEUR.
Laprairie, P. Q., Can.

I received my goods all O. K. Every thing ordered was there, and I thank you and your clerks for the same. The freight charges were 80 cts. on 1000 sections and 200 all-wood frames. The 100 all-wood frames I got of you last year cost me $1.45 for freight. JOHN DAVIS.
Allison, Lawrence Co., Ills., Sept. 26, 1884.

CLIMBING ZION'S HILL.

Brother Root:—I can say, thank you, and bless *God* for GLEANINGS; for through my many troubles there comes a cry, "Be a man for *Christ's* sake," and I can truly say, blessed be the name of Jesus. I am climbing Zion's hill, and all alone, since my partner went before me; and with the love of God as a helpmate I will meet her in heaven. JAS. SWAN.

FOR VALUE RECEIVED.

I have just received GLEANINGS, and the first that meets my eye is a reminder of what we owe to the Rev. L. L. Langstroth. I am not able to give 20 cts. per swarm, as I have not made it off my bees; but, give him the amount due me on your ledger, as I have been more than repaid that amount in the pleasure that I have received in working with them. D. H. MACOMBER.
Sweet Home, Texas, Sept. 24, 1884.

[Thank you, Friend M. We have forwarded the $1.12 to friend L., and have balanced your account.]

MAKING OUR LIVES IN KEEPING WITH WHAT WE PROFESS.

From my dealings with you I believe you to be an honest, conscientious, and upright man, which, to be frank with you, I very much doubted at first. In our State we are accustomed to suspect any man who makes a specialty of religion. I freely confess that I am happily and agreeably disappointed in your case. May you live long and prosper.
Clarkson, N. Y., Sept. 14, 1884. H. E. HAMMON.

[Friend H., I am afraid I do not deserve the above. Any way, there is a moral in it, and the moral is, that we who profess to love the Master should be very, *very* careful in all our dealings with our fellow-men. May God help us to do better!]

I received the tent for setting over a hive, in good order, and am well pleased with it. I commenced the bee business last spring with 12 colonies of blacks, in patent hives. I transferred them into Simplicity hives (according to directions given in the A B C book) early in the season; increased to 35 stands, which I am now Italianizing. I obtained 1000 lbs. of extracted honey, which was gathered from horsemint. It is very dry in this country at present, and if it does not rain we shall have to feed our bees. J. P. CALDWELL.
San Marcos, Texas, Sept. 21, 1884.

OUR FOUNDATION-MILLS, ETC.

I received your comb-mill July 5th. You sent it without delay for sure, as I ordered it without delay, and it came on the first express that I expected it. It works just like perfection. I have made a big lot, and have put most of it in use. The bees go right to work on it without delay. I am highly pleased with your wax-boiler and dipping-boards. I wouldn't care if you had sent me half a dozen or so more of dipping-boards. I would have been just as well pleased; but, of course, you have to do as you are bid, or you will be censured for it. I am so well pleased, I would not take ten times the price paid for the outfit. C. H. CLARK.
Aldia, Monroe Co., Iowa, July 26, 1884.

IS IT TRUE, THAT BEE-KEEPERS AS A RULE ARE GENTLEMEN?

The two insertions in GLEANINGS brought me all the orders I could fill for bees by the pound, but I lost heavily; nearly all the heavy packages were jammed and mashed, so that I had to nearly duplicate the orders. Light packages went pretty well, even to different parts of Canada; but my losses were nearly made good by the gentlemanly and generous letters from my friends. I say friends, for I feel that they are such, although I never saw them. Although I guaranteed safe arrival, some of them offered and did stand part of the loss. Several said, "Hold up, don't send any more now, it is all right." It was not their fault if I got only enough to pay me to put them up and take them to the express office. I found all square men save one. He acknowledged the receipt of bees in first-rate condition, and that is all I ever got from him. We'll wait awhile yet before I give his address. He may come up all right yet. I wish there were room in GLEANINGS for the addresses of a number of others whom I consider Christian gentlemen. I think Mr. Henry Kenney, of Portsmouth, O., hit the nail square on the head when he said that nearly all bee-men are gentlemen. M. L. WILLIAMS.
Vanceburg, Ky., Sept. 18, 1884.

A KIND WORD FROM CANADA.

The bees, brood, and queen shipped by you on the 30th ult. arrived safe to-day. Express charges, $2.05. There was about a handful of dead bees. Every thing else very satisfactory. I must congratulate you on the very careful yet simple manner you put up every thing you send me. I was very anxious to see what a really good queen—a marked one—was like; and I am pleased to be able to say that my own queens are quite equal to what you have sent me.

COLD FRAMES FOR FIGWORT.

I got a packet of figwort from you, and planted it —one-half in a hot-bed, and the other in a cold frame. That in the hot-bed never put in an appearance; but that in the cold frame came up strong. I planted them out in due season, and they have been in bloom some time (we have had no frost yet), but with the most careful watching, I have never seen a bee working on it. But it appears to be the rendezvous for wasps. There is seldom less than a dozen to be seen on the small plat.

FRIEND C.'S DISCOURAGEMENTS IN HUNTING UP A RUNAWAY SWARM.

I lost a swarm of bees in June (my only swarm), and have kept a standing offer to the Indians here of $4.00 to show me the tree they were located in. On Saturday a young fellow came and told me he had found them. I started off with him, and traveled through the wet bush for about two miles, when he pointed to a—what I thought at first was a fine wasps'-nest; but which, upon inspection, turned out to be the abode of as fine a lot of *hornets* as one would wish to be a mile from. You may suppose I came home a wiser and a sadder man. Mr. Sioux did not get his premium. But his intention was honest, so I satisfied him greatly with a dollar as an incentive to keep his eyes open.
THOS. COLLINS,
Portage la Prairie, Man., Can., Oct. 6, 1884.

Your A B C is received. I like it. It opens a new world to me. J. J. DAVIS.
Davisboro, Ga., June 25, 1884.

The queen you mailed me last Saturday arrived at 9 A. M. yesterday, apparently all right. I placed her, as per directions, in a queenless colony, and trust she is happy, and on the way to high usefulness. D. H. BRUSH.
Carbondale, Ills., June 16, 1884.

OUR IMPROVED SECTIONS.

I received the sections by express; am very much pleased with them; you have improved them wonderfully over last year, by making the entrance larger, to admit the bees; also they are of better material. G. J. DORMANDY.
Lansingburgh, N. Y., July 8, 1884.

A PLEASED CUSTOMER.

The saw came all O. K., and, in fact, all the goods I or my neighbors have ever sent for, and we think you are all right, and I would not be without the A B C book and GLEANINGS for ten dollers per year, and keep bees. I am blowing for the A B C a little. JOSEPH COKER.
McLeansboro, Ills., June 17, 1884.

OUR $3.75 244-LB. SCALES.

Your 244-lb. scales came to hand all O. K. I set them up, and first had to weigh the whole family, hired girl and hands included. They all pronounced them the most accurate and handsome article they ever saw for the money. I think every farmer as well as bee-keeper should have one of those cheap scales, only $3.75. J. B. MURRAY.
Ada, O., July 4, 1884.

OUR KNIVES AND EXTRACTORS.

The knife is all O. K. I could not get along without it. The extractor is a novelty here; my neighbors are all coming in to see it work, and to see if the honey can "really" be extracted, and the combs put back for the bees to refill. A successful "sling" of six gallons has convinced them that the thing can be done. W. S. TATE.
Osyka, Miss., July 5, 1884.

GLIMPSES OF THE GOOD TIME COMING.

I received your card, and am very much obliged to you for your liberal offer in my goods that were not sound. You do more than I asked. It always does me good to deal with a friend whom I can trust. What a nice time we all could have if all were honest in their dealings, and hold their word as though it were a bond! How much better we could all get along! I everywhere speak a word in your favor, and remain you friend and well-wisher.
Dayton, Va., July 10, 1884. B. BOWMAN.

SENDING GOODS "TOO QUICK."

It is a mistake, that I refused to take the goods, but, on the contrary, I was very anxious to get them. I did not think they would come quite so soon; and as I live five miles from the city I did not go in for about a week. The express company might have notified me. I think they were to blame. I am very sorry to have caused you any trouble, and suppose you have your money now.
Minneapolis, June 30, 1884. H. L. WOODBURN.

[In the above case, the express company was in a hurry, for they notified us the goods were uncalled for.]

The first lot of bees you sent me have done very well, I think. I put one-half pound of bees with queen on empty combs on the 7th of June, and gave them one frame of brood, 10¾ by 10¾. This was all the help they got.

I have taken 56 lbs. extracted honey from them; they have enough in the hive yet to winter on. I divided them once besides, and now have two good colonies from this half-pound. We have had a very poor season for honey in this locality; no honey from basswood, and very little from Canada thistle. JAS. GORDON.
Monticello, Ont., Can., Aug. 30, 1884.

CONVENTION NOTICE.—The Southern Wisconsin Bee-Keepers' Association will hold its next meeting at the court-house, in Janesville, Oct. 28, 1884, at 1) A. M. It is hoped that all members will be present at this meeting. J. T. POMEROY, Sec.

HONEY COLUMN.

CITY MARKETS.

DETROIT.—*Honey.*—The honey market is still rather dull; this is caused in a measure, probably, by the low price of sugar. A good article is offered at 14@15c. A. B. WEED,
Oct. 13, 1884. Detroit, Mich.

J. H. Thornburg wants one barrel of clover or basswood honey; producers, please give lowest price. Lynn, Randolph Co., Ind.

I have for sale about 2000 lbs. of extracted honey, very thick and good. Price 8 cts. per lb.
O. H. TOWNSEND, Alamo, Kal. Co., Mich.

I want to buy one or two large barrels choice clover or basswood honey. Those having it to sell will please write to me, stating price, etc.
JAMES L. GRAY, St. Cloud, Minn.

FOR SALE.

30 COLONIES OF BEES

In 2-story Langstroth and Simplicity hives, *At $2 per Colony*, loaded on cars at this place. The hives are new and the bees are in good shape. The bees are a cross between the Italians and Holy-Lands.
18tfdb **THOS. A. GUNN, Tullahoma, Tenn.**

JOB LOT OF WIRE CLOTH.

WE have such a brisk sale on this, that, since the advertisement was printed on our cover, it has been all closed out, except the following — that is, we have none that we can sell at the low price of 1½ cents per square foot, except that mentioned below, and we can do this only by selling the whole roll as given:

1 roll, 16 in. wide, containing	118 sq. ft.
1 " 23 " " "	55 "
1 " 24 " " "	200 "
5 rolls 25 " " "	53, 97, 102, 143, and 250 square feet.
4 rolls, 26 in. wide, containing	65, 180, 200, and 200 sq. ft., respectively.
1 roll, 27 in. wide, containing	23 sq. ft.
4 rolls, 28 " " "	58, 100, 240, and 240 sq. ft., respectively.
1 roll, 30 in. wide, containing	131 sq. ft.
2 rolls, 31 " " "	65, and 122 sq ft.
1 roll, 32 " " "	41 sq. ft.

A. I. ROOT, Medina, O.

MATCHES

That Can't Take Fire When You Don't Want Them to.

WE are very much pleased with the kind of matches which we now use entirely in all the rooms in our factory, that can be lighted only by rubbing them on prepared paper. If they are dropped or stepped on, no harm can happen; neither can people fill their pockets from your match-safe, because they could do nothing with them if they did. When struck on the prepared paper, a very light touch gives a large strong blaze. Boxes containing about 100 are sold for 3 cts.; by mail, postpaid, 5 cts.
A. I. ROOT, Medina, Ohio.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have for sale two young hybrid queens at 40c each, and one black at 20c. J. H. JOHNSON,
Middaghs, Northampton Co., Pa.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS
F.A.Whiting

Vol. XII. **OCT. 15, 1884.** **No. 20**

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

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NECTAR, OR HONEY-DEW.

THE following, from the pen of Prof. A. J. Cook, we clip from the *Weekly Press*, of Philadelphia:

These terms are very old in our literature, and refer to drops of liquid sweet, often very minute, which are frequently observed on grass and the foliage or branches of various trees and plants. These drops of nectar have been referred to by writers for at least 2000 years, and probably were the subject of remark and inquiry as far back as the time of Aristotle. The first name, nectar, is very appropriate, as the substance is sweet and often very pleasant to the taste. Sometimes it is as light colored as the finest honey, while at other times it is as dark as New-Orleans molasses, and, as if to illustrate that nature, has an eye to the fitness of things. The dark nectar is also often bitter and unpleasant to the taste. The dark nectar is often quite odorous, so much so that when gathered largely, as it is apt to be, by bees, a rank, disagreeable smell will be observed about the apiary in place of the delightful odor usual to the bee yard. A few weeks ago I knew an apiarist, misled by this odor, to be very anxious for fear he had in his apiary the dreaded malady, "Foul Brood," which is always characterized by a most disagreeable stench. Have not many readers, during the past summer months, as they have been walking, especially just at the beginning of twilight, perceived a very noticeable odor, which the physician would liken to slippery elm, but which would remind the farmer boy of the diluted odor of the hog-pen? The cause of such odors is this same nectar. Often it so smears the leaves of the trees that to grasp them covers the hands with a sticky, unctuous liquid not entirely pleasant to the touch; not infrequently the glittering drops may be seen to twinkle on the foliage, or as they fall from it, especially just at the dawn of morning. Sometimes it falls from the leaves, so as to stain the sidewalks or other objects beneath the trees.

The other term, honey-dew, is not so correct, for, though the sweet is well likened to honey, it is in no respect like dew. As is well known, dew collects from vapors in the atmosphere while the so-called honey-dew never has any such origin, though it is quite impossible to persuade many persons, especially bee-keepers, that such is not the case. Even men of no mean scientific ability have often assented to this false view as to the origin of this nectar.

Occasionally this nectar takes the name manna, and grasses from which it is secured have, in recent journals, been called manna grass. Were this term in general use I should think it a very appropriate name.

The sources of nectar of plants are very various. That secreted by flowers, through the agency of special cells, is best understood, and is without doubt to attract insects to the important work of fertilizing the flowers. Another source of nectar is special, extra-floral glands, which are sometimes on the stalk, sometimes on the leaves and sometimes on the peduncles, or flower-stems. The cotton and partridge pea show such glands, and afford such secretion. Professor Trelease suggests that the function or use of such glands and secretion is to insure the presence of ants, wasps, and bees, which will destroy or frighten and drive off insect enemies of the plants. Professor Trelease was led to this view while studying the cotton plant of the South. Such nectar — that from flowers and extra-floral glands, as also the sugar-laden sap or juices of many trees and plants — is never included in the term honey-dew.

The nectar known as honey-dew is also of diverse origin. As is well known, it comes largely from plant lice. It may come from special tubes — called nectaries — or, as is more generally the case, from the glandular pores of the abdomen. It is very common to find the leaves of trees infested with aphides, or plant lice, blackened by this nectar, or the fungi which its presence induces. The presence of ants in tree or shrub is almost always a sure indication that the plants were previously attacked by plant lice. The ants repair to the place for this same nectar. Bees often collect this nectar in considerable quantities. I have often seen this sweet in large drops sufficiently ample to be sampled without difficulty. Of course I sampled it, and have always found it agreeable to the taste. It might not be wise to label honey "Plant-Louse Honey," but I am free to say that some of the best of honey might be thus truthfully labeled. I have found the plant-louse nectar of the larch and elm particularly pleasant in flavor. The near relatives of plant lice, bark lice, also secrete a large amount of nectar. This bark-louse or scale-louse nectar, unlike that from the plant lice, is dark, of strong odor and ill-flavored. As scale-lice flourish best in dry seasons, so in years of drought this bark-louse nectar will be most plentiful. The present season, and also the year made memorable by the Chicago fire, were both marked by the great amount of this bark-louse nectar. The present season tons of honey have been stored by bees, the source of which was these same bark or scale lice. While many do not object to the flavor of this honey, it is dark and rank, and as it in many cases was mixed with the clover honey, its presence was a sore misfortune to the bee-keeper. For my own part I would never put such honey on to the market, as I would never use it on my own table. As I have often stated, I believe the cause of the great mortality among the bees in the winter following the Chicago fire was due, in part at least, to this bark-louse honey in the bee-hives. I think, however, that the flavor that season was considerably more rank than it is this summer, possibly owing to its being less mixed with other and better honey. These nectar-secreting bark lice are very common here and in many Northern States. Now myriads of them are in our basswoods, our maples, our hickories, our sassafrasses, our white ashes, our elms, pumping up the sap and excreting this bitter, odorous sweet. The very atmosphere is tainted, and when the bees can do no better they accept this nectar of questionable reputation. It thus becomes a practical matter. The bee-keeper must watch for this unsavory nectar, and when it abounds he must see that it is not mixed with the fine grades of honey. By use of the extractor it will be easy to keep this separate. As this nectar will keep the bees busy gathering in time of no nectar bloom, it will keep the colonies breeding, and as it will be good food for bees during summer, it will do no serious mischief to one who is informed as to its use and abuse.

Lately I have received several samples of what has been styled manna grass by those sending it. It comes from Ohio and Michigan. The grass was specked with crystals of sugar, much as though it had been dipped in sugar syrup. Placed in the mouth, or on the tongue, it seemed as if it might have been sprinkled with granulated sugar. The sweet was very pleasant to the taste.

Upon close examination I found the grass was the seat of a thrifty plantation of ergot. Many of the seeds or kernels had the purple-black ergot grains. I gave the ergot to Dr. Grange, our veterinarian, and told him of the coating of sugar, which I supposed must arise from insects, though I could find none of the latter.

Soon after, Dr. Grange kindly referred me to a work on veterinary medicine, where ergot was described and the honeyed secretion given as a characteristic marking of the early stages of this poisonous fungus. In looking up this subject I find that European writers often speak of this nectar from ergot, and of insects collecting it. The ergotized grass in Quincy, Mich., was thronged with bees, which are reported to have secured excellent honey from it.

Ergot, as is well known, is a fungus much used in medicine. Its use induces spasmodic contraction of the involuntary muscles. When eaten by man, as it is wont to be in ergotized rye, it produces inflammation of the eyes, chills the extremities — probably by contraction of the arterioles — induces swelling of the joints, which is speedily followed by gangrene of the limbs and bowels, and death by convulsions. As Bonjean and others have shown, if the ergot of plants is eaten by cattle and others of the lower animals, disease and death are produced, with much the same symptoms as mark ergot poisoning in man. It is stated that there have been many epidemics in Europe caused by ergot poisoning.

We see, then, that in ergot, Michigan has a most unwelcome visitor, and that there is a very dark side to this ergot picture; but it is pleasant to think that here, as in most of nature's products and life's experiences, the sweet is liberally mixed in with the bitter. I remark, in closing, that in this fungus we have another source of nectar not before noticed in our American literature.

The above, coming just at this time, is very acceptable, for it is perhaps the most comprehensive article on this wonderful subject of honey-dew we have ever had.

HOW TO MAKE SYRUP FOR BEES.

A SEASONABLE ARTICLE.

I HAVE frequently noticed writers for bee periodicals advise making syrup much thinner when intended for stimulating purposes than when fed for winter stores. Now, this is correct enough so far as the feed itself is concerned; but the mistake is in making it. Syrup should nevbe made thiner than in the proportion 1 lb. of best granulated sugar to ½ lb. of water. This is the proportion given in all the pharmacopœias for medicinal purposes, and is, I presume, supposed to keep in any climate. Now, when you wish to feed for stimulating purposes, all you have to do is to dilute it with boiling water. The advantages in this are as follows:

1. You can make sufficient syrup at one time to last several days, with no danger of its souring.

2. When you feed for stimulating purposes it should be slightly warm; you accomplish this when you thin it with your boiling water.

3. It is much easier to have a kettle of boiling water on the stove than it is to warm your syrup when wishing to feed.

I would give this caution, however, when making a large quantity, which you intend keeping for some time, which is this: The syrup, after cooling, should be shaken or stirred up. The reason for this is, when syrup is allowed to cool in a partially covered vessel there will be a thin watery liquid covering the surface, caused by the cooling of the heated moist air, which, if allowed to remain, will very soon sour, and thereby in time sour it all. Do not be satisfied with pouring boiling water on the sugar, and then stirring till dissolved, because it is doubtful whether it will take up a sufficient quantity of sugar to keep it; and even if it should, there will usually be a quantity left undissolved. An ordinary boiler is a good vessel in which to make your syrup; the usual size will hold easily 80 lbs. of sugar and 40 lbs. water. Put in the water first, and, when boiling, or nearly so, pour in the sugar; stir it once, and when it boils you will find the sugar all dissolved. This is much better than putting both sugar and water in at the same time, as it would require continual stirring, or there would be danger of the sugar sticking to the bottom, and burning. If you were feeding very late in the season, too late for the bees to cap it over, I would then make it a trifle thicker. For convenience it is well to remember the following:

One pound of water is equal to one pint (ale, or wine measure), so that, in making your syrup, it requires just half as much water (by weight) as sugar; and sugar, when liquefied, will make a trifle more than half as much in liquid ounces as it does by weight; for instance, 8 oz. (½pt.) of water, 16 oz. of sugar, will make a little more than 16 oz. by measure, and weigh, of course, 1½ lbs. This is near enough for general calculation in reckoning the amount of syrup a given feeder will hold, or the quantity a certain vessel will contain when making your syrup. For example, friend Root states that his Simplicity feeder holds about ½ pint; consequently it will contain nearly ¾ lb. by weight.

Brussels, Ont. G. A. DEADMAN.

The above suggestions are excellent, especially the item about making the syrup quite thick and then diluting it as it is used. We often have made syrup stand over from late in the fall till spring; and where it is made very thin, even if it does not sour, it changes so as to have a sort of brackish taste. Now is the time to make your syrup and do your feeding, if it has not been done already. I should use nothing cheaper than granulated sugar.

FEEDING AND FEEDERS.

A FEEDER MADE AS A PERMANENT FIXTURE, OR A PART OF THE BEE-HIVE.

IS feeding bees really essential in successful apiculture? I for one wish it were not; but to me it seems that, however much we may be opposed to it, and although we might question the advisability of stimulative feeding at certain times, yet we must admit, that there will be times when there will be no choice, but either to feed our bees or else lose our colony. I have a feeder to offer that to me seems an indispensable requisite where one feeds to any extent. If you have only a few hives it does not make so much difference; but if you intend keeping over 50 colonies you will require a feeder that will consume the least possible time in feeding.

The feeder I am about to describe is more practicable for those who make their own hives; but even those who have all the hives made they require, can accommodate this feeder by making a double front to their hives, or having it in connection with the winter cases that many use with their single-walled hives. There must be a double-walled hive, or at least a double wall on one side or front, so that the feeder itself is in this dead-air or chaff space, and the double wall forms the sides of the feeder, so all that is necessary to do is to put in a strip of wood the exact width of the space allowed; this can form the bottom of the feeder, and then place another, about four inches above this, to form the top of your feeder, if your hive is on the short side, then the feeder can extend clear across, and the corner post of your hive form the ends of the feeder. A space one inch wide, with a groove along the sides for the bees to walk on while sipping the feed, and an ⅛-inch strip down the center for the same purpose, and about 13 in. long and 4 in. high will hold about 3 lbs. Of course, you can make it much larger than this if you wish; but in my opinion there is no particular advantage in having it much larger, as this does either for stimulating or for winter feeding. I look on it in this way: That if you have somewhere about 100 colonies you would be able to feed nearly as fast as you could get the syrup ready, and it is a very easy matter to feed three or four times in the 24 hours. Having your feeder made in the way described, you then make an entrance to it for the bees, just underneath the regular entrance, so that the bees have to come part way out of the main entrance, and then go up into the feeder. By having the entrance to the feeder made at one end of the regular entrance you can then place your entrance-block on that end of the entrance where the opening to the feeder is. This better controls the warmth, and protects it entirely from robber-bees. If you wish to close it at any time, all you need do is to place a small piece of lath in the entrance to the hive. The next part is to bore a ¾-inch auger-hole slanting into the feeder through the outer wall of the side of the hive, in which to put the funnel when wishing to feed. This is kept closed by a plug of some kind. I find a piece of cloth about as good as any, or, better still, this wrapped around a cork or piece of wood. With this you can feed 50 colonies for stimulating purposes in twenty minutes—you can feed at any time. My occupation compels me to frequently feed at night, or in the rain; but with this feeder there is no difficulty. If at night, by hanging a lantern on your arm you can feed them nearly as fast as you can walk along.

I have 100 feeders similar to this cup, holding about ¾ lb.; the entrance is, however, near the top; but with a large feeder this would draw too much upon the heat from the hive. I intend making about 80 the coming winter, and will make them as above described, to hold about 3 lbs. They will then do for stimulating, or for feeding for winter stores.

Let me anticipate some of the objections that will arise in the minds of many of the readers of this article. Some will probably say, "If I must have a double wall to accommodate a feeder, then I will never have a feeder."

To this I would say, that a double-walled hive is worth all the extra expense in making it, and, feeder or no feeder, cellar or no cellar, I want every hive to be made of 9-16-inch lumber for the sides, with space for chaff or dead air. With the lumber of the above thickness, no rabbeting is required; for by placing the strip that covers this chaff or dead-air space ¾ in. above the sides, you have a ledge for the frames on the inside, and a similar one for the cover on the outside. The hive can be made with single boards at the ends, as two division-boards will make them double, so in reality it is very little heavier or larger than a single wall, and yet sufficient protection for the sudden changes in temperature, and also when being first removed from the cellar in the spring. Then again some might suppose that it would be difficult to keep it from leaking. In answer to this I would say, that all that is necessary is to have your corner post, or the ends of the feeder, the bottom and top thereof, to be all exactly the same thickness, which is easily done by cutting them all from the same board, and then just before nailing together, paint the strips with a thick coat of white lead in oil; and then after the nailing is done and paint dry, pour in some hot beeswax and allow it to run around the joints, and you will have a feeder that will not leak, and that will last as long as your hive. I will now enumerate some of the advantages of this feeder.

1. No feeder to arrange on the hive when requiring to feed.
2. No feeder to remove when feeding is done.
3. No feeder to remove when wishing to examine the hive.
4. No disturbing the cushion, or loss of heat from the hive, but, on the contrary, is warmed by the waste heat from the hive.
5. No cover to remove, thus enabling you to feed in one-fourth the time generally required with ordinary feeders.
6. You can feed at any time, whether rain or sunshine, dark or light.
7. You have the benefit of a double wall during cold or changeable weather.
8. The actual cost is less than many feeders in use.

9. No feeder to store away and occupy valuable space when not in use.

For those who feed (as Mrs. Harrison advises) between every cessation of the honey-flow, a feeder such as described is practically indispensable where one has a number of colonies. With my present experience I would not be without it, and I find it pays to have things convenient, even though it takes double the time to make them so, providing this can be done during the winter season, and so lessen the work when time is more valuable and the bees require the most attention.

Brussels, Ont. G. A. Deadman.

I have for many years considered such feeders as you mention, friend D. The objection is, that we should have to go to the expense of a feeder for each hive, and many bee-keepers seldom if ever feed at all. In making hives for general sale, the price of the hive would have to be advanced—not very much, it is true, but still it would be quite a little trouble and expense, and this would necessitate our making still another table of prices for hives with feeders and without feeders. The most objectionable feature I notice in your arrangement is the unsightliness of a corked-up hole in the hive. If it were corked up with a wad or rag, or a cork covered with a rag, it seems to me this would look still worse. Another thing, robber-bees would be continually hanging about at the cork or the plug. I know, for I have used just about such an arrangement. The feeder itself, after standing some time, would be likely to be filled with dead bees, moth worms, and perhaps spiders and spider-webs. On this account I should want it so made that the whole inside could be inspected and brushed out, and this would be still more expensive. Our friend Shaw, of Chatham Center, this county, used to have a similar feeder in the upper part of the portico of his hives. Of course, the bees went right into the feeder through the front end of the hive. The feeders were filled by raising the cover of the hive a little way. This, it seems to me, would be less trouble than uncorking a hole. I should expect the corks or wads to be lost after a time in our apiary, and then this place would be used as an entrance, or robber-bees would be getting into it. Such feeders are *very* handy in feeding to complete unfinished sections.

SOMETHING REFRESHING FROM WISCONSIN.

FROM 136 TO 200 COLONIES, AND 12,620 LBS. OF HONEY, NEARLY HALF OF IT COMB HONEY.

To show the relative value of our honey-flow, and also the sudden variations caused by atmospheric changes, I give below a record of one colony of bees, showing the daily gain or loss of honey. This colony was provided with 20 Langstroth frames to extract from, and they did not swarm. To those who doubt the value of red clover as a honey-producer, I wish to say that the extraordinary yield from Aug. 10th to 20th was from red clover, and the honey is of excellent quality, although not as light as white clover. I have about a ton of it in 1-lb. sections.

DAILY INCREASE IN WEIGHT.

Date.	Gain.	Loss.	Source of Honey.	Extracted.
June 8 to 22	30 lbs.		White Clover.	
June 23	3½ "		" "	
June 24	3 "		" "	
June 25		2	" "	June 25, 34 lbs.
June 26	15		" "	
June 27	8½		" "	
June 28	5½		" "	
June 29			" "	
June 30			" "	June 30, 23 lbs.
July 1	11½		" "	
July 2	6		" "	
July 3	2		" "	
July 4	1½		" "	
July 5		2½	" "	
July 6	1		" "	
July 7			" "	July 7, 27½ lbs.
July 8	1½		" "	
July 9	2½		Basswood.	
July 10	8½		ditto	
July 11	3		ditto	
July 12	5		ditto	
July 13	2		ditto	
July 14	1		ditto	
July 15	8		ditto	July 15, 28 lbs.
July 16	4½		ditto	
July 17	7		ditto	
July 18	7		ditto	
July 19	5½		ditto	
July 20	4		ditto	
July 21	2½		ditto	July 21, 25 lbs.
July 22	9½		ditto	
July 23		1	Red Clover and	
July 24	½		Autumn Flowers.	
July 25	½		ditto	
July 26	2½		ditto	
July 27	5½		ditto	
July 28	9½		ditto	
July 29	6		ditto	
July 30	11½		ditto	
July 31	3½		ditto	
Aug. 1	4½		ditto	Aug. 1, 46 lbs.
Aug. 2			ditto	
Aug. 3		1	ditto	
Aug. 4		1	ditto	
Aug. 5	10		ditto	
Aug. 6	3½		ditto	
Aug. 7		1	ditto	
Aug. 8	2		ditto	
Aug. 9	5		ditto	
Aug. 10	6½		ditto	
Aug. 11	15		ditto	
Aug. 12	12		ditto	
Aug. 13	10½		ditto	Aug. 13, 54½ lbs.
Aug. 14	18		ditto	
Aug. 15	20		ditto	
Aug. 16	10½		ditto	
Aug. 17		½	ditto	Aug. 17, 53 lbs.
Aug. 18	15		ditto	
Aug. 19	6		ditto	
Aug. 20	3		ditto	
Aug. 21		1½	ditto	
Aug. 22	1½		ditto	
Aug. 23	2½		ditto	
Aug. 24		1	ditto	
Aug. 25		1	ditto	
Aug. 26	3		ditto	
Aug. 27	1½		ditto	
Aug. 28	3		ditto	
Aug. 29			ditto	
Aug. 30			ditto	
Aug. 31			ditto	
Sept. 1	1½		ditto	
Sept. 2	2		ditto	
Sept. 3			ditto	
Sept. 4	2½		ditto	
Sept. 5	1½		ditto	Sept. 10, 43½ lbs.

I commenced the season with 136 colonies; took 12,620 lbs. honey, 6100 lbs. in sections, and 6520 lbs. extracted; increased bees to 200 colonies.

Mauston, Wis., Oct. 13, 1884. Frank McNay.

Well, friend M., the above really does one good during these days of "Reports Discouraging." It *is* in truth interesting to know that your largest yield was from red clover; and it is singular to note how quickly the yield of honey goes up and then goes down again. Did you keep a record so you can tell us if the temperature and moisture of the atmosphere alone produced these results, or is there a large flood of honey one day and but little the next, without any one being able to give a satisfactory reason as to why it is so? Your report of about 92 lbs. per colony, with a number so large as 136, is really wonderful. Although you did not mention it, we presume likely the whole number of colonies mentioned were not kept in one apiary.

WHAT IS THE MATTER WITH THE BEES AND QUEENS?

MORTALITY DURING WARM WEATHER.

BROTHER ROOT:—As I have never made any report of my bee business I thought I would report, and you can put me in Blasted Hopes if you think best. Last year I bought and traded for 9 colonies and nucleus, mostly in box hives. I transferred them into L. frames and chaff hives of your pattern, and fed them 200 lbs. honey for winter stores. They stood the winter very well; however, 3 hives dwindled out in April, which left me 6—4 in good condition and 2 weak. I have taken only about 100 lbs. honey. The honey season was very poor in this part of the country, but my bees increased from 6 to 16, and I traded old hives for 4, which makes me 20, which were doing very well in the way of building up, and most of them had stores enough for winter, when, about the 26th of August, they commenced dying at a fearful rate, which they continued to do until the first of September when they ceased to die, and seemed to be all right again, and were working nicely, and I was feeding the weak ones to get them built up for wintering, when I heard some old bee-keepers complaining of their bees and queens dying, and on examination of 18 hives at home I find 10 queenless. Some had no brood nor eggs; some had some hatching brood; 3 had queen-cells; one had some drones; but the drones which had not been previously killed by the bees mostly died when the bees were dying. One queen has hatched since I went through them, but she died. The cells in one hive have been torn down, but I can find no queen. I find a few eggs, two in a cell, which I suppose is done by a fertile worker. I think if I can get queens this week, I can build them up so they will winter, if winter doesn't come too soon, and the new queens don't die.

I am not alone in the loss of bees and queens. Some have lost all their bees; some have lost more than half of their queens; a great many have their bees in gums, or box hives, so they can not examine them; but I think two months will tell the story for a great many of them.

The mortality was not confined to any special condition of the bees; some of my strongest died the worst, while others, about equal, suffered but little, while some of the strongest hives that lost but few bees lost their queens. Two colonies that were rather weak fared rather the best—neither queens nor bees dying, except a few bees.

The trouble is not confined to this neighborhood. I hear of it ten miles north, and as far south, and no one seems to know what is the cause. One bee-keeper whom I talked with thought it was ironweed. Now, if any A B C scholar or teacher can give us any information in regard to the trouble with our bees and queens, it will be thankfully received.

Cloverdale, Ind., Oct. 7, 1884. T. BROWN.

Such cases are not very common, friend B., although we *occasionally* find something similar. I can give no reason for it, unless they obtained stores from something poisonous. Whenever I find my bees dying in that way, I should feed heavily with sugar syrup, so as to induce them to stay at home, and also to so dilute the poisonous food as to render it harmless. If that should stop it, we should then be pretty safe in concluding it was poisonous stores from some source or other.

REPORTS DISCOURAGING.

I WILL give you a bit of report of the honey season in Maine. In all parts of the State I have heard from, there has been but very little honey gathered since the first of July, consequently feeding is the programme of the day, and I fear some will let their bees starve through neglect. I must say, with hundreds of others, that I never saw so poor a season in my life for honey; but it takes more than one poor honey season to kill a Maine bee-keeper. Wintering is our worst feature, but we are overcoming that by the use of the L. frame and the Root chaff hive, of which enough in its praise can not be said. I believe all of those queens, some 20 in all, that I had of you, are purely mated except one, and her bees are black as your boot on Sunday morning.

P. S.—I have a little girl 3½ years of age, and she is much interested in Huber. She has teased me until I have promised to write and ask Mr. Root why he doesn't put Huber's picture in the paper. When I receive a journal I always have to hunt it over and see what it says about little Huber. I propose myself that you give us a cut of him. She says, furthermore, that she will write Huber a letter when she is old enough. Her name is Grace.

Dexter, Penobscot Co., Me. A. R. BODGE.

Bees have not done very well this year with us. The best any of them will do will not be 60 lbs., and some have not enough to winter on. In 1882 we had 12; they increased to 36 in 1883; last spring only 21, and now 14; only 3 swarms this year; 15 swarms were in box hives, and we had 11 of them transferred into Langstroth hives. The honey season is about over here, and there is not a crate of honey all capped over on any of the hives that have been on ever since they filled the lower story. The season started out "right brisk," and the apples bloomed the fullest I ever saw; but the nights have been so cool that I guess there was not very much honey to get. J. E. STICKLE.

Macomb, Ill., Sept. 28, 1884.

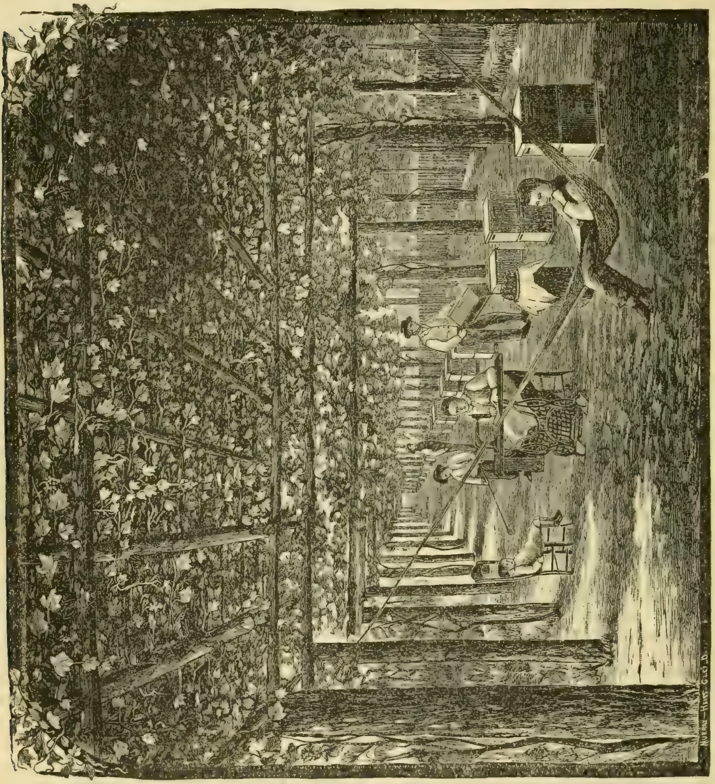
Yes, friend Root, we are all in the same boat with G. M. Doolittle. On the shores of Lake Ontario we are tossed about in tempestuous storms, but our craft is well built, and we will stand the storm, if we have only half a crop of honey. First frost, Oct. 9, 1884. B. LOSEE.

Coburg, Canada.

A GRAPEVINE APIARY ON A NEW PLAN.

GRAPES AND HONEY AND DOMESTIC ENJOYMENT.

WHENEVER we get a photograph embodying some new feature, or giving a glimpse of something that will be helpful to our readers, and something they have not already seen before in our pictures, we are glad to have the view engraved. Friend Leyvraz, of Francis, Fla., gives us quite a refreshing glimpse of what may be done in the way of making home pleasant, and combining bees and grapes. Especially are such arrangements desirable for our more southern climes. There are our old friends, the Simplicity hives, as natural as life. The boy in the foreground is probably wearied by the arduous labor of cleaning up the weeds, and is taking a refreshing rest in the 75-cent hammock. His brother, with hoe in hand, looks as though he had almost got ready for some rest and recreation too. The chap a little further down, having supplied his mamma with a nice lot of fresh grapes, with the dew and the bloom still on them, which he has placed so temptingly on that unique fruit-stand, is perhaps now making an estimate of the probable quantity nearly or about ready for market. Papa has evidently decided that that Simplicity hive just before him needs an upper story. He does not seem to have any smoker near, but very likely the bees are getting so much honey that none will be needed. The little chap who has slid so far backward on the big chair he occupies that he looks almost ready to go to sleep, has already probably refreshed himself with grapes, and is taking it cool in the shade. Mamma, who of course prefers to be outdoors among the rest, has taken along her sewing-machine, or, rather, the boys have brought it out for her. See how thoughtful they have been in putting a bit of board under each end, that the legs may not sink in the sandy soil. It is a sandy soil, is it not, friend L.? Well, we are very thankful to you all for this view; and if you are not a happy family, you certainly ought to be. If I ever get so far south as Florida, I shall certainly anticipate great pleasure in giving you a call. Before closing our remarks we will here give you a brief letter from the master of the pretty ranch :



A GLIMPSE OF FRIEND LEYVRAZ' GRAPEVINE APIARY, WITH THE FAMILY ALL AT HOME.

I inclose a photograph of part of my apiary. I like to follow your advice — *utile dulci*, grapes and bees. I think I have solved the problem for shade in the South, and paying shade at that. The grapes are Scupernongs, red and white; the vines are planted to every second post, 20 feet apart, and spread 25 feet each way, or, rather, will in a year or two. The first vine, planted six years ago, measures now six feet high, 13 inches around, and covers a space 40 feet long and 50 wide, and bore last year about 10 bushels of grapes.

Francis, Fla., Sept. 5, 1884. Aug. Leyvraz.

SHORT LONG-HAND.

Something for Those who are Burdened with Heavy Correspondence.

SOME SENSIBLE SUGGESTIONS IN REGARD TO CUTTING OFF USELESS LETTERS IN OUR LANGUAGE.

WE clip the following from one of our county papers:—

By the application of seven simple rules, a large part of the labor, time, and vexation of the pen-user is saved, also the reader's time; for when words r (are) abbreviated the eye can take in more at a glance. Letters standing alone, as u for you, r more legible than words. We easily read the a & I of the worst scribe, because the form of the letter is not changed by joining with others. This is why ordinary print is so much plainer than even engraved script.

The average penman writing seven hours a day writes "the" 700 times & several other words nearly as frequently. Some of these words occur 1000 times as often as words to which abbreviations have long been given. The frequent recurrence of 20 words makes up ¼ of English. These words represented by single letters would b (be) as plain as a & I, & would effect enormous economy of time & save many millions of dollars annually in printing. They occur so frequently that reading a few pages of a book thus printed fixes them in the memory. We write I instead of ei or eye; why not u, you; r, are; &, and; b, be, etc.! Script circulates most among the intelligent classes, yet 99 persons write "you" 90,000 times a year for fear 1 dull person will not understand u. Better for the 1 dull person to ask some 1 to help him read. Even the majority of editors still write y-o-u & a-n-d altho the printers would understand u and &.

These word signs (u, r, &, etc.) we call arbitraries, but most of the brevity of fo (fonoscribing) results from the rules for omitting the letter e wherever it has its short sound (as in get); & from the omission of silent and useless letters as ot, ought, tho, though. These two rules alone cut down about ⅔ of the words in the language. E is not omitted where it begins a word unless followed by x.

Rule 1. Omit short e except where it begins a word or accented sylable: tl, tell; ltr, letter; evr, ever. But *e* is always omitted before x; xtra, extra. The rules r not applied to words v infrequent occurrence.

If you wish to commence using fo in your daily work, without preliminary practice, u should take 1 rule at a time & pay no regard to others till u have acquired the habit v (of) applying that rule to all words which it covers. In practicing on fo with printed matter (as already recommended), u should read 1 rule carefully; go over the printed matter applying to it; then another rule & so on.

Rule 2. Omit useless letters; tho, though; ot, ought; laf, laugh; hi, high; vu, view; thru, through; wa, weigh.

Illustrations v useless letters. *H* is everywhere omitted after *x*, xaust. *H* is omitted after c where c has the sound v k. caracter, character. *U* is everywhere omitted after q. Ql, quell; qil, quill. *K* is everywhere omitted after c. Loc, lock; stic, stick. *B* is silent in many words. Dout, doubt; dt, debt.

O is generally silent in *final unaccented* syllables when preceded by a consonant. Buttn, button; bcn, beckon. There is no more sound of o in prison than in prism. (See Webster or Wood.)

This leads to omit as useless any vowel before *m, n, r, l*, or *sh* in any *unaccented* syllable, unless the vowel begins the word.

To remember m, n, r, l, think v the word minrl (mineral). Examples: Colm, column; bcn, beckon; rumr, rumor; morl, moral.

Only 1 syllable in a word is considered as accented; a secondary accent is disregarded.

Words v 1 syllable r accented syllables. Words r governed by their primitives; we omit a in moral, hence it is also omitted in morlity (morality), altho it is in an accented syllable in morality. Many fonoscribes do not omit anything but short e.

It is not considered advisable at present to change who, whose, whom, hour, & a few other words carrying dead letters. Ai, ei, oo (as in vain, veil, moon, soon) r left undisturbed.

A good many who write our system do not follow rules 3, 4, & 5, but u r earnestly recommended to do so. They make writing more legible, as well as briefer.

Rule 3. Change ph to f wherever those letters have the sound v F, fotograf, photograph.

Rule 4. Change G to J wherever it has the sound v J; hj, hedge; rij, ridge; juj, judge. D is silent before g, but can not be omitted unless g is changed to j.

Rule 5. The plural v words ending in y is formed by adding s, pony, ponys. Y is also retained in the comparative and superlative degree v adjectives, as holy, holyr, holyst, & in the past tense v verbs; hurryd, hurried.

There are two reasons for this rule. 1st, The impulse is to add s to y as the plural is generally so formed. 2d, y suggests the short sound v i, because it rarely, at the end v a syllable, has any other sound. But i is as likely to b long as short. Hence if we, instead v ponys, holyst, etc., shd write ponis, holist, it would not be so suggestive.

Rule 6. Any vowel before nd, ng, nk, or nt is omitted unless it begins a word or is preceded by another vowel; hnd, hand; sng, sing; bnk, bank; wnt, want.

Rule 7. Omit all vowels from any unaccented syllable or any word v 1 syllable, which, in the singular, has 4 or more consonants, thnk, think.

This in some cases produces an outline which represents 2 words, but the connection shows which word is intended. The word box has in English 8 different meanings, & many words have several meanings.

The following is the list v arbitraries which experiment has shown can b read without previous explanation:

&, and; abt, about; b, be; bt, but; bn, been; cn, can; e, the; f, if; 4, for; frm, from; gd, good; gv, give; hd, had; hm, him; hv, have; hs, has, his; n, in; nt, not; r, are, or; t, it; tht, that; 2, to, too; thn, than, then; thr, there, their; ths, this; u, you; ur, your; l, will; mch, much; sch, such; upn, upon; ws, was; wht, what; wh, which; whr, where; wth, with; y, why; yr, year; cd, could; shd, should; wd, would; z, as, is. Notice the single-letter abbreviations: &, and; b, be; e, the; f, if; 4, for; n, in; r, are, or; t, it; 2, to, too; u, you; l, will; y, why; z, as, is.

V these, *n, in; t, it; l, will; z, as, is,* r the least suggestive, but when any v them is pronounced with the preceding word, the word it "stands" for is indicated. Thus, *he'l* (he will); *she'l* (she will); *they'l* (they will); *go'n* the house (go in the house); *he'z* going (he is going); *do't* now (do it now). In reading fo u should not pronounce the word u think any v these letters may "stand" for, but merely *utter the ordinary sound v that letter*. For instance, u do not say *z*, but give utterance to the *buzzing sound v z*. This *sound* indicates *as* or *is* equally well, but the *name* v Z would not. But with *u* and *r* one must utter the *name* v the letter. In reading fo 1 never reads "will u go or not?" but "will u go *r* not?"

A period after an abbreviation is useless, because those who know the abbreviation will know it without a period. It is not only useless but misleading, especially in matter printed entirely in capitals. Many paragraphs need to be printed in capitals, & thousands v the writing machines now rapidly coming into use can not print anything else. It is often impossible to tell whether or not the period after the abbreviation is intended to end the sentence.

A punctuation point is useless after a skip or drop, as the skip indicates a pause. Thus we write

J G BLAINE ESQ
Der Sr
Ur estemd favr rcevd
Urs truly
JNO A LOGAN.

SAMPLE OF SHORT LONG-HAND.

Some persons after redng a litl v fo sa, "T wd tak me som tim 2 gt fmilr wth al e wrds." Most v e wrds wh mak up ordnry spch ocr so ofn tht a fu hours redng maks thm fmilr. A list v 800 wrds wh u cn red n 4 mints maks up 4-5 ordnry English. F u shd rit al othr wrds n ful u wd stil efct grat savng.

V (of) shd be mad smal & lik a prnt v (an invrtd caret.) Ths z plainst & "qicst." U shd drop al "curlicus," wh dmnsh sped & impair ljibility. Ritng wh z nerst "strt up & down" (vrticl) z plainst.

Evry divinity, law & mdicl scool shd tech som systm v bref lng-hnd. Lt ech pupl rit a sntnc n e blacbord, 4 othrs 2 criticis.

Business colleges, instd v gving pupls a parshl cours n fonografy, aftr wh, n most coljs, nt 1 n 50 cn rt t at e sped v ful lng-hnd, shd tech e authrs r rportrs styl v fo r som othr systm v bref lng-hnd. A LITL FONOGRAFY Z A USLS THNG, bt a sngl rul r abreviashn basd on e ordnry alfabt speds e pnmn. He wd hv 2 liv anothr lif 2 becom z familr wth another alfabt z he z wth tht he hs usd frm infncy. F techrs v fonografy tl u tht bref lng-hnd z nt, whn aplid 2 e ritng machen, swft enuf 4 rportng, r f tha tl u tht e Michela machen r Stnograf r noisy, we cn rfut thm by e Americn Consl-Jnrl, Rome, Italy, whr e Michela hs alrdy displed pn shrt-hnd n e Italn Parlamnt & courts, r by P. Deming Esq Albany, N. Y., r Prof Bartholomew, Belleville, Ill, & mny othrs.

40 yrs v failr hv provd al knds v shrt-hnd basd on a stnografic alfabt, usls 2 any xcpt thos who mak thr us a profshn, & gv t al thr tim, & 2 a fu othrs who hv unusuly gd mmrys & who hv e almost abslut cntrol v e pn ncsry 2 rit t wth enuf ljibility 2 b abl 2 red t wthout losng mor tim thn ws svd n ritng t. E fonografic alfabt z sductiv, bt look farthr & u l fnd e alfabt xtndd & e sam caractr mad a litl litr, a litl hvyr, a litl lngr, & a litl shrtr usd 4 mny difrnt ltrs. E pnmn hs no le-way & e slitst dviashn clashs wh othr ltrs. T z prpostrus 2 clm fonografy ethr ljibl r esy v aquirmt. T z nt ncsry 2 mploy a spshl techr n a scool r colj 2 tech bref lng-hnd, z any v e tchrs cn soon lrn it.

E SRMN ON E MOUNT.

& seing e multituds he wnt up into a hi mountn; & whn he ws st, hs deipls cam unto hm; & he opnd his mouth & taut thm, Saing, Blsd r e poor n spirit; 4 thrs z e kngdm v hvn. Blsd r tha tht mourn; 4 tha shal b comfrtd. Blsd r e mek; 4 tha shal inhrit e erth; Blsd r tha wh do hungr & thrst aftr riteousns; 4 tha shal b fild; blsd r e mercifl; 4 tha shal obtain mrcy. Blsd r e pur in hart; 4 tha shal se God. Blsd r e pecmakers; 4 tha shal b cald e chldrn v God. Blsd r tha wh r prscutd 4 riteousns sak; 4 thrs z e kngdm v hvn; Blsd r ye whn mn shal rvil u & prscut u & sa al manr v evl agnst u falsly, 4 my sak.

To USRS V RITING MACHENS: U r gvng ur crspondnts ltrs n *plain prnt*, wh tha cn red n½e tim v ordnry scrpt. Mny v thm gv u *rchd scrawls*. Hv u nt a *rit* 2 lev out suprflus ltrs? U cd evn us e rportng styl v fo & gv ur crspondnts mor ljibl shets thn tha gv u. Cn e mn who thmslvs virtully lev out mny ltrs (*ritng haf a wrd & runng e rst into a tail*) dmur at *ur* abreviashns? Tha omit *importnt* ltrs & without any rul 4 tracng thm. U only omit *usls* ltrs. E majority v profshnl mn alrdy abreviat xtnsivly. Fo merly asks thm 2 *abrcviat by rul.*

Fo z nt orijnl wth me. Som v e abreviasens, z e 4 the, hv bn n us frm tim imemorial. E most importnt orijnl fechr n t z rul 1. T alon cuts down e lngua 5 times z mch z e 2000 abreviashns n us, & levs evry wrd redabl.—*Prof. Gamble, of Philadelphia.*

One of the clerks in our office has been using it for several months, for the purpose of preserving a copy of any thing she wishes to take down hurriedly, and it seems to answer every purpose; in fact, I am so much pleased with it that I have decided to give the article entire, and suggest to our readers that they are at liberty to use it if they please, in writing to us, except for matter for publication. The saving of time, and the wearisome labor of writing, is enormous; and yet it can be read even faster than ordinary writing, with a little practice.

A great argument against such short-hand is, that it would spoil the spelling of the one who uses it. I do not think the above way of writing will have that effect. In fact, the clerk whom I have mentioned spells just as well as she ever did. As she writes all the letters to you written with the type-writer, you may notice that her spelling is correct.

BEES OF INDIA.

ALSO A CASUAL MENTION OF THE APIS DORSATA.

BROTHER ROOT:—I send by this mail a book on bees in India, which has just been issued from the press, in hopes that it may be of some interest to you, as you will learn by it the state of bee culture in this mighty empire of over 240,000,000 souls.

In Burmah the old forests are full of the various kinds of bees. One can walk out and find several swarms of a morning. They swarm in our houses and in trees, and under rocks. The swarms are small, as a rule; the largest swarm of the Indian bee, which resembles the domestic bee of Europe or America, will not contain over a few quarts — say 2 or 3 quarts of bees. The larger kind, however, as the *Apis dorsata*, are found in monster swarms. I have been experimenting a little as I can get time from my many duties, and find that the *Apis Indica* is very gentle. I can handle them easily. The difficulties in keeping them are well set forth in this book. I have a large Karen population to look after. The Karens are very poor; and if I can introduce a new industry among them, I shall indeed render them a great help, so I am tempted to experiment further, as I am able. May God still bless you.

A. BUNKER.

Toungoo, Burmah, July 30, 1884.

Thanks, friend B. We are very glad indeed to know that *Apis Indica* is being domesticated like other bees. Thanks, also, for the book, which we mentioned in our last issue editorially. If you could only get hold of some of the *Apis dorsata*, and experiment a little with it, you would confer a lasting favor; and by way of assistance, we will forward the means to do so if you think the matter at all practicable. There has been an intimation that they will not work in domestication; but we are anxious to have this matter fully proven before we drop them. Any information you can give us in regard to them will be very thankfully received, and we will gladly pay you for your time, or any other expense incurred in hunting up such facts.

ANOTHER LETTER FROM ERNEST.

A VISIT TO THE QUEEN-REARING ISLANDS OF D. A. JONES.

ALTHOUGH our friend Jones had, just the previous week, been to his queen-rearing islands for a little recreation with his *large(?)* family, on hearing that I was going, kindly insisted on accompanying me there, that I might receive the full benefit of my trip. These islands are situated in the Georgian Bay, about an even hundred miles from his home at Beeton. We took the morning train, properly equipped with camping supplies, including blankets, gun, dog, and other like necessities, fully bent on "roughing it." As the islands are apart from civilization, life there is in its primitive state; hence the pleasure-seeker must go prepared.

Arriving at Collingwood, we took the steamer at midnight, and the following morning found us amid thousands of beautiful islands, varying in size and appearance. The scenery, mingled with the rays of old Sol just heaving in sight, was certainly grand and magnificent, to say the least. To me, invigorated by the morning air to a full appreciation of nature's beauty, the sight was more pleasing than the falls of Niagara. Here we pass by a beautiful leafy island of perhaps 50 acres, more like a painting than a reality; there again is a threatening bare rock just above the surface of the water, and scantily covered with shrubbery; yonder is an Indian village on one of the larger of the islands. Here and there are beautiful little bays passing in and out among the islands—a most delightful place to fish and sail. Thus is the variety of scenery along almost the whole route of 60 miles—certainly a trip none too good for bee-keepers. Ere long Mr. J. points out his Palestine Island where the race of bees bearing the name are raised. Soon the whistle blows, in response to which one of Mr. J.'s men comes out in a small boat to meet us, as the steamer can not come up alongside the island. We are now on the island, which is indeed a veritable Palestine—one mass of uneven rock having an area of about one hundred acres. Mr. J. says it is very much like the hills of Judea in general appearance, and, as he fitly expressed it, not enough original soil to make a good-sized hen's-nest. There is, however, a kind of thin soil resulting from powdered rock and decayed vegetation which gives rise to small trees and shrubbery.

We soon took a stroll around a part of the island, clambering up and down the rocks occasionally, now and then halting to pick berries, of which there are great quantities of almost every variety, especially huckleberries and cranberries. Circling back we paused on a large flat rock where Mr. J. keeps his Palestine bees of about 30 or 40 nucleus swarms. The swarms are necessarily weak, from the fact that they have to be fed; for there is nothing on this or the other two islands, except a little pollen, that the bees can gather. This necessitates a big expense in order to carry on queen-rearing, and prevent starvation.

Let us consider briefly the cost of rearing in this way: Making Palestine Island headquarters, two men are constantly required to care for the bees on the different islands. To go to and from the islands, 5 and 7 miles apart, the men have a yacht and a row boat. Added to all this there is the cost and transportation of sugar—saying nothing of the supplies needed by the men themselves, as there is no civilized community near them. Mr. Jones believes, that by selecting choice queens and drones of a distinct race, and confining them to one separate island, he thereby secures a better strain of bees than the original imported stock; otherwise he could hardly go to such expense, and compete with imported bees. In another season, Mr. J. intends to test fertile-worker drones on some one of the islands; in connection with this there will probably be other experiments of like nature tried. Certainly the opportunity afforded will be rare.

After looking about on Palestine Island we took the yacht, under a fair breeze, and started for Carniola, where bees of that name are to be raised. The island is at present devoted to crossing the Carniolan and Palestine bees, a cross from which Mr. Jones expects much. The general appearance of this island is much like Palestine, with the exception that it is a little more woody, and, in censequence, more beautiful.

Starting from here we sailed to Cyprus Island. I did not see much here; for while we were pausing a moment in the apiary, Mr. J. became suddenly aware that there were ducks on the water, and hastily took leave. I stood a moment, when the disposition to go was irrepressible. I started. In rapid succession shots were fired, but no ducks died.

If it were appropriate, and there were space, I would enter into detail of our various experiences; how Mr. J. shot 9 ducks out of a flock of 11; how we got after a deer, and didn't get it, how we went fishing, etc., but I must close, with the announcement that Prof. Cook, father, and others, have promised to go to the islands next year for a little recreation. Mr. Jones has completed all arrangements, and an enjoyable time is anticipated. If enough bee-keepers can be induced to go, a bee-keepers' convention will be organized. Those of you who can avail yourselves of the opportunity will find it a rare treat, I assure you. Grand chances will be afforded for boating, hunting, fishing, rambling among the rocks, and picking berries. I think it is quite probable that our good friend Jones can there talk quite intelligently on how he raised *strawberries* on the island, and whether by the "potted" process or Doolittle plan.

ERNEST R. ROOT.

Oberlin, O., Oct., 1884.

BEES THAT MAKE SUGAR INSTEAD OF HONEY.

HONEY THAT SOLIDIFIES IN THE CELLS ALMOST AS FAST AS IT IS GATHERED.

HAVING seen two or three reports in GLEANINGS from my own State, I thought I would send a little of my experience. We began the season with 28 colonies; have increased to 43 by natural swarming. Bees have done well here; ours have averaged 100 lbs. per colonoy, spring count. We hived a swarm as late as the 8th of July, and they have filled their hive. Our bees converted our apiary into a sugar-factory. I send you a sample of it for you to see the quality or grade they make. They have made about 300 lbs. of it.

I don't think we could have used an extractor at all. There is something strange to me in the way they did. Some colonies would be making this sugar, while others, only a few feet from them, would be making as nice honey as I ever saw.

In GLEANINGS, page 524, August No., Mr. J. H. Barber seems to want bees that drop. If he had ever had them to drop, as ours did a few weeks ago, I don't think he would be so well pleased with their dropping, after all. We have had the most honey-dew here this summer I have seen in several years, and our bees would come home so heavy laden that they would fall and bump their little noses against the ground, and would sit and pant for breath, tired nearly to death. I would rather not have them drop so hard.

I should like to have foundation to use now, as we have so much fall flowers. Our ravines are almost a solid sheet of goldenrod, besides other flowers.

Kiss Huber's little sweet mouth for me, and tell him to grow fast and be a big bee-man.

MARY A. SISTRUNK.

White Sulphur Springs, Ga., Aug. 18, 1884.

Thanks for kind words, my good friend. I should call the granulated honey a pretty fair quality of honey-dew—not honey exactly, but honey-dew sugar, for instance. I presume a part of your bees were collecting this honey-dew, while others were working on the blossoms, is why this hive furnished such a different product.

As the above letter lay on my table some time before it was answered, perhaps I should explain to our readers that the following came to hand at a later date:

WHAT TO DO WITH HONEY THAT GETS SOLID IN THE COMBS.

I sent you a bottle of honey, Aug. 18. Did you get it? Our bees are making sugar yet; haven't got much honey this season, but lots of the sugar. The way I got it into a liquid form is to heat it, and the wax rises on top. It is light colored and very good. We have 42 colonies in good shape.

MARY A. SISTRUNK.

White Sulphur Springs, Ga., Sept. 22, 1884.

Perhaps the above is as good a way as we can get to manage this candied honey; but I should very much dislike to spoil new combs to get the honey out.

IS HONEY POISONOUS?

SOME HINTS IN REGARD TO THE USE OF HONEY AND OTHER KINDS OF FOOD.

DEAR EDITOR:—In an article in a recent issue of the *American Bee Journal*, the writer expressed the opinion that honey was not poisonous to some people, as has been alleged. To this opinion, Prof. Cook, on page 661 of GLEANINGS, current volume, under the caption of "Honey Colic," very courteously takes exception. I have very great esteem for the learning and ability of the professor, but think on this topic he has got just a little "off." He states that honey, to his father, was a "virulent poison." Now, we have known potatoes to energetically disagree with some persons, who, like the professor's father, "could eat almost any thing at any time with impunity"—but potatoes.

In a medical practice of many years it has been my lot to treat many cases of cholera infantum, which is a disease of small children, the principal feature being indigestion. Very often I have found one who could not be induced to partake of any of the much-vaunted prepared foods of which so many kinds have been made to fill the great demand for a more easily digestible food for these little sufferers. Milk disagreed with them, or they would not take it, and it became a question frequently, whether the child was not in greater danger from starvation than from the disease. In these cases I have inquired if the child would eat any thing else. The answer has often been, "Oh, yes! the baby wants potatoes, and cries for them all the time."

Now, the popular impression is, that since potatoes so often disagree with dyspeptics, that they are very hard to digest, and would not be good, especially for a child suffering from cholera infantum, hence they would be refused; but the fact remains, that well-ripened potatoes are about the easiest of digestion of all the known foods, as I have abundantly seen in the treatment of these cases, in which it has not been my misfortune to lose one in the past six or seven years.

The point conveyed in the above is this: If potatoes are among the mildest of all the known foods, and yet are capable of causing such serious effects to some people, are they poisonous?

"Oh, well!" I imagine the professor would say, "the cases in which potatoes disagree have an idiosyncrasy against potatoes," and this is what he would term it, I suppose, where honey disagrees. We do not think he meant to convey the idea that honey is a poison; but, what is an idiosyncrasy? Well, it is a convenient term that some doctors often apply to certain cases where, from causes not understood to them, a food or medicine disagrees. It may signify almost any thing or nothing. It is like a platitude that you may turn upside down, and it reads this way; but down side up, so so. But as applied to foods after you have done and said all, it simply means indigestion, which is always associated with some form of dyspepsia. Hence my advice in the article alluded to, to those with whom honey disagrees, to go to some "good physician" with such dyspepsia; but I do not mean to convey by this that these cases are all curable, for very many are not.

But the professor's father "could eat boiled or granulated honey with perfect safety." The cause of the disagreement is conveyed in the fact here stated, and which was held by myself, to be an acid which is secreted in the stomach of the bees, and is said to be of a volatile nature, and therefore would be dissipated by boiling. The acid, however, is harmless to the vast majority of people, and we shall be obliged to take issue with friend Cook, without undertaking "to study up" the matter further on the question of its poisonous nature in the ordinary quantities taken. DR. G. L. TINKER.

New Phila., O., Oct. 8, 1884.

Thanks for the facts you give, doctor; but I understood the professor to use the term "poison" as a sort of pleasantry. Where any kind of food very much disagrees with a person, we often say it seems almost *poison* to him. I know it is a fact, that an article that seems to suit one exactly will not do at all for the other; hence the difficulty in laying down rules in regard to diet. Within just a few days we have had trouble with baby Huber, and my wife made the remark that it actually seemed as if milk were worse for him than almost any thing else, even when scalded. I told her we would begin giving him other kinds of food very cautiously, and note carefully the result. He is now all right, and I think we who are older might be profited by inquiring a little more carefully as to Nature's needs in the way of food. Now another item:

We can accustom ourselves — or, I should like to say, *acclimate* ourselves, if that is the proper word—to almost any kind of food. I have noticed, a great many times, that when we first begin to get new apples, I must be very careful indeed about eating them until Nature has got used to them, and learned how to manage, as it were. After having "increased the dose" daily for a week or ten days, I find I can fill my pockets, and eat just as many as I choose, and just as I did in the days of my boyhood. I have noticed the same thing with honey. A heavy meal of it, after I have taken none for a long while, produces a very disagreeable feeling; but by eating it cautiously at first, and gradually increasing the quantity, no amount will make any disturbance.

A few days ago Huber got into the pantry, pulled off from the shelf a 2½-pound Jones can, picked the lid off with his thumb-nails, and drank about a teacupful. It acted like some poisons; for after rubbing his little stomach, and telling his mamma plaintively, "Burny, burn," he vomited it all up. Now, we did not decide that the honey was poisonous on that account, but it surely acted like poison to him when taken in such quantities. I do not mean to insist that *any* one can accustom himself to honey so that he can eat it in large quantities without unpleasant consequences; but I think it can be done, and sometimes it is very convenient to be able to eat the same kind of food that our friends and the rest of the family relish greatly.

HONEY SHOW AT LONDON, ONTARIO.

ALSO SOME SUGGESTIONS IN REGARD TO HONEY AT FAIRS.

THE honey show at the Western Fair which was held in this city during last week was far from what it should have been. I had been led to suppose, that if the directors would only give a good premium list that the bee-keepers of this section would make a very large display; but my anticipations were far from what was realized. The exhibit, although small, was very tastefully arranged on the shelves prepared for the purpose in a neat building kindly set apart for the bee and honey show.

On entering the building, the first exhibitor is Mr. Jos. B. Aches, of Amiens, who has the largest show of comb honey in the building; he also shows extracted honey, queens, wax, honey vinegar, and a full colony of Italians; his exhibit is a very attractive one, and calculated to teach the public that advanced bee-keeping has come to stay, and that, by careful attention, money can be made at the business. His exhibit of queens of his own rearing was splendid; he says he had no trouble to sell all the honey he brought to the fair.

Mr. D. P. Campbell, of Parkhill, Ont., comes next with a large amount of extracted honey, also comb honey of superior quality, hives, extractors, smokers, etc. He also shows queens and a full colony of bees in an observatory-hive. He had a foundation-mill of the C. Olm make, with foundation of that make. I might say, that Mr. Campbell is the President of the North Middlesex Bee-keepers' Association.

Mr. G. B. Jones, of Brantford, Ontario, representing E. L. Gould & Co., of that city, next takes up our attention, and pleases us very much with his show of apiarian supplies. It is the most comprehensive exhibit ever shown in this part of Canada. Mr. Jones was kept very busy all the week explaining the many articles used by bee-keepers, from the drone-trap to the honey-extractor, which it is not necessary to mention that it was not a new style of churn nor an ice-cream freezer, or that his wax-extractor was a coal-oil stove, as these questions are common at fairs. He had sale for his bee literature, honey-knives, and such light articles as people could carry in their hands. Mr. Jones is quite confident that our show will be the means of enlarging his business to a great extent in this section of the country.

We now come to a very nice display of extracted honey in gem jars, which I have no doubt has made many thousand mouths water during the week, as it looks simply delicious.

Mr. R. H. Smith, of Ealing, Ont., who makes the exhibit, says that the people like to see what they buy, and therefore glass jars are the best for his purposes. He also shows hives of the D. A. Jones make and style; also wax and honey extractors, wax, drone-trap, etc.

The ladies have an exhibit this year, which, although small, is very nice.

Mrs. Rudd, of this city, takes first prize for extracted, and Mrs. Begg, of Granton, Ont., takes the prize for comb honey.

Mr. John Rudd, of London, Ont., shows hives, extractors, smokers, feeders, etc.; also queens of his own breeding, and a full colony of Italians. He did a large trade selling honey, by allowing persons to eat what they wanted, for five cents each, which caused much merriment to on-lookers. Many thought they could eat more than what was set before them; but as they handed back the dish to Mrs. Rudd, they remarked that they were satisfied.

Mr. Alex. Scott, of Ealing, shows honey cake, which was first-class. He also shows honey vinegar, comb honey, etc. There was also a number of other exhibits, but nothing worthy of special mention.

The North Middlesex Bee-keepers' Convention was to have been held during the week, but the other attractions in the city were greater, and only a small number made their appearance, who held an informal meeting in the hall of the Masonic Temple, where they talked over matters pertaining to bee culture, to the edification of all present.

London, Ont., Can. WM. H. WESTON.

Friend W., I like one idea you bring out in the above; that is, giving the people at large honey to eat at such gatherings as our county fairs. I proposed at our fair to have a small eating-house on purpose to furnish lunches of hot cakes and honey, but was deterred from doing so on hearing that one of our churches had the privilege of supplying all eatables. I would suggest, that somewhere in our apiarian hall, or at one end or one side of it, proper facilities should be in place for furnishing the most appetizing hot cakes in the way of gems, muffins, buckwheat cakes, etc., and with these hot cakes some of the choicest butter, and samples of all kinds of honey. Neat little tables and seats should be prepared so as to make it comfortable for the public who wish to sit down; and for the convenience of those who don't care to stop, a nice bit of comb honey and some hot cakes, or perhaps sandwiches, might be put in a bag to take along; also hot coffee could be furnished in connection, if desired. But the central feature of it all should be to teach people how to eat honey; and after having appeased their hunger, more honey of the same kind should be in readiness to furnish them to take home, either in comb, or in tin or glass pails. If gotten up in a way that some of our bright geniuses can do it, it would pay, without a doubt. Now, who will do it first, and give us a report of how it went off? If I could not make a success of it at our own fair here in Medina, I should be very much surprised.

A BEE AND HONEY EXHIBIT.—At the Virginia State fair at Richmond, which opens October 22, one of the principal attractions will be the bee and honey exhibit. This feature will be shown under a mammoth tent, 40 by 60 feet, with an annex 12 by 20. One exhibitor will show 18 cases of living bees, representing 12 species or varieties, with their queens and progeny. In addition one of the latest and best systems of queen-breeding will be fully demonstrated and explained. In fact, the display will be a model apiary, conducted on scientific principles by one of America's bee-keepers, who has spent over 30 years in the study of the bee.—*Baltimore Sun.*

OVERPRODUCTION OF HONEY.

FRIEND DOOLITTLE GIVES US THE OTHER SIDE OF THE QUESTION.

IT is always well to have a clear view of both sides of any matter before coming to a definite conclusion, and especially so where such conclusions may lead us to go into a business "in haste, to repent at our leisure." The above was brought to my mind on reading on page 625 of present volume of GLEANINGS, these words from friend J. E. Pond:

"Notwithstanding the great demand for bees, and the immense quantities of honey that are raised from year to year, the amount largely increasing each year, I do not see any reason to think that overstocking or overproduction is a factor that need trouble us in this generation. At any rate, I don't see that the price of nice honey is any lower than years ago."

The above words, and what follow, are calculated to lead the novice into the business of honey-production, by his being told that honey will bring him the prices of years ago; and they also show that friend P. did not have a thorough knowledge of the honey markets; for if he had, he would not have written any thing so far from the truth. Because friend P. finds plenty of pasture in his locality for his small apiary, it does not prove that overstocking is not troublesome in other places, with ten times the number of bees kept he is keeping; and because he can find sale in his "own dooryard, at remunerative prices," for all the honey his small apiary can produce, it does not prove that the price of honey is no "lower than years ago."

I do not propose to dwell on the overstocking part, except to say that our largest honey-producers show by their actions, in locating their 500 or more colonies in several different places, much to their disadvantage, that overstocking is a factor which is of trouble to them, even "in this generation;" but I do propose to show that the market price for honey is *much* lower than it was "years ago," and that the low price is caused by the supply being greater than the demand, which means overproduction. Understand that I do not doubt that friend P. can sell all his honey at home at remunerative prices, for undoubtedly such is the fact. But these prices will not apply to our large honey-producers who must make a market for their honey in the large cities; hence the market price is what is affected by overproduction.

I commenced keeping bees 15 years ago last spring, and at that time honey in 6-lb. glass boxes brought 25 cts. per lb., delivered at the railroad, while in the fall of 1869 I was offered by a party from New York city, 50 cts. per lb. for the little I had, the advance of 100 per cent being caused by a very poor season during 1869, so that the supply was very much less than the demand.

The season of 1870 being an extra good one, the price fell back to 25 cts. again, at which price I sold my crop of that year, as well as that of 1871 and '72. Owing to the loss of bees during the preceding winter, the supply was insufficient again, so that in the fall of 1873 I sold at 27 cts., while in 1874 I received 28½ cts. per lb. for the whole of my crop. Those prices brought more into the business, which, with but little loss in wintering, caused honey to drop, so that 26 cts. was the price I obtained in 1875, while in 1876 the supply was again adequate to the demand, and 25 cts. was the selling price.

In 1877 the crop was very large, which, together with the large accession to the ranks of honey-producers, caused by the high prices of 1873, '74, and '75, caused an overproduction, and a decline in price from 25 to 20c., at which price I was compelled to sell. California now came in with a very large crop, which, added to our large crop of 1878, caused prices to come down beyond what was ever known before, and large lots of honey were held for better prices, till they were forced upon the market in May, 1879, at 10 cts. per lb. for as nice honey as friend P. ever saw; said honey netting me but 8 cts. per lb. after paying express, commission, etc.

In 1879 I sold at 15 c., and in 1880 I received about 17, which was also the price for 1881. In 1882 and '83 I sold at 16 cts. per lb. each year, while the present quotations will give us hardly these figures. After a careful going-over of the market reports given in the bee papers, I find the following quotations:

For 1874	28 to 30 cts.	For 1880	18 to 20 cts.
" 1875	27 " 30 "	" 1881	18 " 22 "
" 1876	23 " 25 "	" 1882	22 " 25 "
" 1877	20 " 22 "	" 1883	18 " 20 "
" 1878	11 " 13 "	" 1884	17 " 19 "
" 1879	20 " 22 "		

Previous to 1874 I failed to find any quotations in any of the bee papers I had. From the above, friend Pond and others will see that honey is really about 10 cts. per lb. lower than it was "years ago."

Another thing, which is, that honey in such shape as was sold from 1868 to 1873 at 25 cts. per lb. would not net to-day over 12½ cts. per lb. in any market. To bring from 17 to 19 cts. now, honey must be the very nicest, in 1-lb. sections, without glass, which means nearly six times the labor and expense to the bee-keepers that 6 lbs. of honey meant 12 years ago; so that honey is really not worth more than about half what it was "years ago."

So far I have spoken only of comb honey. Perhaps friend Pond had reference to extracted honey. If so, he has only to turn to page 645 of the same number of GLEANINGS in which his article was printed, to see the fallacy of his remarks; for there he will find that friend Root is buying all the nice extracted honey he wants at 7 cts., while ("years ago") previous to 1875 it sold readily at 15 cts. by the barrel.

The point I wish to make is, that "years ago" there was *money* in producing honey, while at the present prices there is little if any more in it, than enough to pay for the cost of production; and he who looks at it in a different light may be one of those who "repent at their leisure." I also believe that the main cause for this state of affairs is overproduction. G. M. DOOLITTLE.

Borodino, N. Y., Oct. 1, 1884.

Thanks, friend D., for the facts and figures you place before us. I was not aware that comb honey had ever been sold—that is, since the war times—as low as 10 cts. per lb.; and I am inclined to think now it was not in one-pound sections. I have never had any nice honey in one-pound sections offered me for less than 15 cts. Very likely friend Pond refers to the price of honey before the war. Then such a thing as extracted honey was unknown; but strained honey, I believe, brought about the price that extracted honey does now. So far as I can recollect, I think we used to get comb honey at about the price of butter, which was about 8 or 10 cts. If I am mistaken, doubtless friend Pond or others will correct me. — It should be explained, that when I get honey for 7 cts. I take lots as large as three or four tons at a time. By the time this is put in the groceries, it brings all the way from 10 to 15 cts. —Now, friend D., in regard to your last point I would suggest that the present prices of honey may not pay you to produce it; but I think there are a great many who would prefer to furnish honey at 7 cts. by the ton, rather than to enter into any thing else; and in many cases they could do it while they could not well do any thing else; or, perhaps, we might say, *would* not do much else if they did not raise the honey. We should also bear in mind, that there are many who claim that almost every other business is overdone—small fruits, grain, stock, etc.

SOME OF FRIEND CATHEY'S OBSERVATIONS IN BEE CULTURE.

VALUE RECEIVED.

FRIEND ROOT:—It has been more than two years since I troubled you with a communication for GLEANINGS. Perhaps I should have bothered you before now, had I not remembered a little item you wrote to the juveniles more than a year ago, on the subject of "Value Received." Your instructions to them were something like this: That when one gave a note for value received, it implied that the maker of the note had already received full value for the amount for which he gave that note; and that when the little ones wrote for a book, they should try to give the worth of the book in some kind of information. I thought this should apply to the old as well as the young; and I set to, to try by experience to add something to the general fund of bee lore. But with my first attempt I met with many obstacles, and I soon learned that the study of bees is like the study of astronomy; that as you advance in experimental knowledge, the goal seems to recede; so that the more you learn, the further you seem to be from perfection. I had set out to try to establish or destroy some fine-spun theories that were in dispute. My experiments were in the winter and spring of 1883. In 1884 my bees were so weak that I did not continue my experiments.

DO HYBRIDS COMMENCE REARING BROOD EARLIER IN THE SPRING THAN ITALIANS?

Feb. 15, 1883, I examined my hives, and found, as usual, the hybrids laying several days earlier than the Italians. That this is nearly always the case, is established to my satisfaction; but I have some doubts as to the cause. I found that the hybrids, generally, had a little pollen, which I think was left over the previous year, as they could not have gathered any before that time. I have, therefore, concluded, in the absence of positive evidence, that the Italians are more apt to use all their pollen in the fall, and consequently they can not raise any brood until they gather it in the spring, while the hybrids have old pollen to begin with. But here are the facts in the case (as Connor would say): The hybrids will lay first in the spring, notwithstanding the Italians will leave the hive first during cool mornings.

CAN WORKER-EGGS BE CHANGED SO AS TO PRODUCE DRONES?

Feb. 28 I started out to prove or disprove the theory of bees changing the sex of the eggs. I believed they could, and I wanted to prove it. I took the queen from a hive which had but few eggs. March 2, I found cells. At the usual time I found a queen. All the brood that was in the hive, the same age of that from which they raised the queen, hatched worker-bees. April 8, no eggs; April 16, found capped brood. There were no drones in my apiary, and I did not think there were any in the whole country. But whether she met a drone, wasp, or bumble-bee, she was a fertile queen, and her eggs produced worker-bees. To my chagrin, my theory was annihilated, and I was bent so far the other way that nothing short of ocular demonstration will ever get me back to it. It is very humiliating to a man when he has so much confidence in a theory that he says, "I will prove it," and then fails. However, it did not hurt me much, as it was truth I was after, and not victory. I think this theory originated from imperfect experiments. We all know that bees are not infallible in their instincts; for, as the most of us know, they will try to raise queens from drone-eggs, and they always fail. Now, their mistake would be just as natural when their instinct teaches them that they need drones for them to draw out the worker-brood cells, and give them the conical cap, and I think this the whole solution of the theory. If a man says he undoubtedly saw a drone crawl out of one of these cells near where a queen had been hatched, then I will reconsider the matter. I think that the experience I had several years ago, which gave me so much confidence in the theory, was drone-larvæ, from which the bees had tried to make a queen, and, of course, failed. I remember there were only two queen-cells, and I destroyed one, and forget all about what became of the other; but I do remember that the walls of the cell were very thin, and not polished off with the miniature honey-comb which we find on all good cells.

ITALIANS AHEAD OF HYBRIDS IN POOR SEASONS, BUT THE REVERSE DURING A HONEY-FLOW.

A small pamphlet by Adair was the first work I ever read on bee culture. He stated that hybrids were fully equal, as honey-gatherers, to the Italians, and that any cross was better than blacks. I did not believe it at that time; but my subsequent experience convinced me, that under certain conditions the hybrids are superior to the Italians; and my statement of this was the first that I ever saw in print; but since then I have read the same encomiums pronounced on the hybrids by several of your correspondents. My experience was for good honey crops. Last year was the poorest for honey that we have had for many, and I found to my surprise that my Italians were ahead, without any exception. I have, therefore, established beyond a doubt in my own mind, that, with a good flow of honey, the hybrids are superior; but with a dearth of honey, the Italians excel. Now, I do not believe in advancing an idea, or adopting a theory, without giving a reason for it. If, as is generally admitted, the proboscis of the Italian is longer than that of the black, it is a good reason why the Italian should gather more honey in a dearth; but why the hybrid should gather more in a flow, is something for which I will admit I can give no reason. I only know they have always done so for me.

CLIPPING QUEENS.

Many of your correspondents are opposed to clipping their queens' wings. I keep mine all clipped, and never have a first swarm go to the woods; and I generally manage so that a second swarm never issues; consequently, I never have a swarm go to the woods under my present *regime*. I scarcely ever lose a queen; and if I did, I think it better than to lose the swarm and queen too. Some friend, writing about a year ago, stated that he would clip no more queens, because he had such a one, and it swarmed; and when he looked for the queen he couldn't find her, and he looked next day, and could find no eggs. The absence of eggs when bees have the swarming mania would not prove to me that they had no queen.

I have decided another thing from several years' experience; viz., that queens have the power of bringing their bodies under subjection. I noticed many years ago, that when some queens swarmed they left no eggs in the hive. I noticed, also, that this was not an invariable rule; and I noticed that there was much difference in the size of queens, that some never get too large to fly, while others do. I opened a hive three years ago for the purpose of clipping the queen; as she was a little distance from the others, I feared they might swarm, and that I should lose them. When I found her, I told my daughter, who was helping me, that there was no use of clipping her, for she could not possibly fly, for she was large to deformity. It was rather late for swarming; but in a few weeks I found she had lead off a swarm which nearly depopulated the hive. This, with other observations, convinced me that a large queen has the power to prepare herself for swarming, and at that time is incapable of laying eggs. I presume all experienced bee-keepers have returned swarms, and the queen would not lay, because, as I think, she could not; and until she becomes reconciled to stay, she will not prepare herself for laying. This is why I say, that at certain times the absence of eggs is not unfailing evidence that the hive is queenless.

RAISING QUEENS UNDER THE SWARMING IMPULSE.

Some queen-raisers state this fact in their advertisement, in order to induce men to buy from them. There is an admitted principle pervading all animated nature; that in the propagation of the species, the offspring will be affected by the peculiar circumstances surrounding the parent during the period of gestation. Will any man dare say that queens raised under the swarming impulse will not transmit that principle to their posterity? I always start my cells in a strong colony, but not while they have the swarming fever; and my bees show less disposition to swarm than any within my knowledge; and when they do swarm, I have very little trouble in returning them if I wish, and have to use but little argument to induce the queen to stay and resume business. Yours for the truth,

B. F. CATHEY.

Cabot, Lonoke Co., Ark., Aug. 27, 1884.

I believe, friend C., that others have decided much as you have in regard to the value of the hybrids as honey-gatherers, compared with Italians.—If I am correct, several facts are brought forward by different parties, saying that drones did actually crawl out of the drone-cells often found near queen-cells. I think your queen was fertilized the fore part of April, from the drones belonging to some bee-tree, or some apiary unknown to you. I like the point you make, that we should be after truth and not victory. I think it would be a good motto for us in our political contests.—I, too, have remarked, and I think commented on the fact, that queens often cease laying just before leading out a swarm, and sometimes they will not begin again until a swarm has had time to build several sheets of comb.—I should want some practical proof to convince me that queens reared under the swarming impulse are more likely to swarm; although I can readily admit, that where artificial swarming is practiced year after year in the same apiary, the tendency to natural swarming would be likely lessened, more or less.

SOME EXPERIMENTS IN EXTRACTING HONEY.

IS IT POSSIBLE TO EXTRACT ALL THE HONEY FROM THE COMBS?

IN last number of GLEANINGS, on page 658, James McNeill, of Hudson, N. Y., asks, "Are there extractors in use that will extract all the honey late in the fall?" Although this may seem an easy task at first, a short investigation will show to the contrary. We will take, for example, a brood-frame 9 x 16 inches, which is one of the two sizes that we use in our apiary; and as brood-combs are built ⅞ of an inch thick, we find that a comb of that size has about 27 square feet of surface that, when the comb is full of honey, is completely covered. Now the question arises, Is there an extractor that will wipe dry all of this 27 square feet of surface, and not, at the same time, injure the comb? We think not. Mr. McNeill says that his combs, when taken from the extractor, still contain an average of one pound of honey each. Now, there is evidently a defect somewhere, and we should be inclined to lay it to the fact that the combs revolve in too small a circle.

After seeing the above article we thought best to make a careful test and see how near we could come to taking *all* the honey from the combs; and for that purpose my brother went to a hive of Italians that had their combs all full and capped, clear down to the bottom-bar, and took the two outside combs, which must have been capped for at least six weeks. After weighing them we removed the caps, and extracted them with the following result:

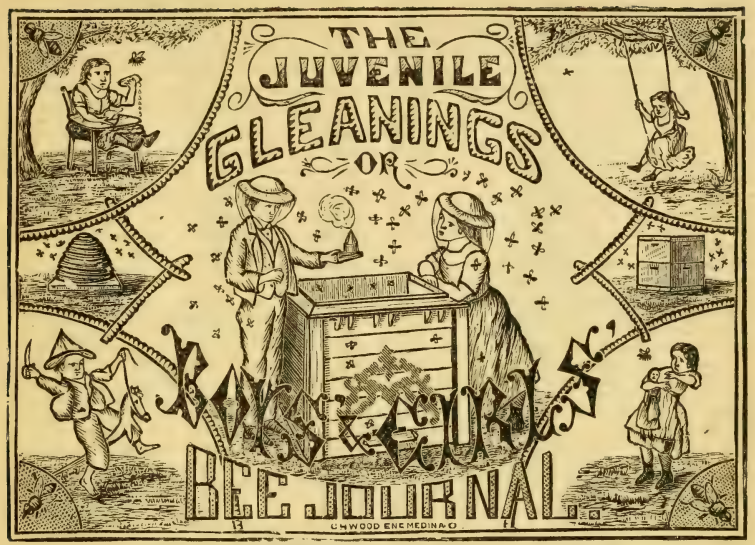
Weight of the two combs, as taken from the hive, - - - - - - - - -	11 lbs. 4 oz.
Weight of the two combs as taken from the extractor, - - - - - - -	1 lb. 12 oz.
Weight after the bees had cleaned them in the open air, - - - - - - -	1 lb. 8½ oz.

Thus it will be seen that the extractor took 9 lb. 8 oz., and the bees took only 3½ oz.

Now as this small amount of honey was spread on 54 square feet of comb surface, one will readily see that it was hardly enough to moisten the combs. If the honey had been extracted during the honey season, the amount remaining in the combs would have been somewhat less.

I think if friend McNeill will take the honey from his combs as closely as the above test shows, he will not have to carry over a great amount of honey in them. The test was made in one of our No. 3 automatic extractors, the combs revolving in a 20-inch circle at a speed of 200 revolutions per minute, or about 15 miles an hour. G. W. STANLEY.

Wyoming, N. Y., Oct. 4, 1884.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

WHO IS MY NEIGHBOR?—LUKE 10:29.

The blood of Jesus Christ cleanseth from all sin.—I. JOHN 1:7.

AS I sit down this morning to write about my neighbors, I am tired somewhat. Do you know why? Well, I got up very early this morning, long before daylight, and walked 7 miles on the railroad track to reach the train that was to take me home so as to be on hand for my work. I enjoyed the walk, however, even if it did make me tired. The beautiful morning star that is seen nowadays when you get up early enough was right up before me, and a little while after the east was suffused with a rosy glow, heralding the rising of the sun. For some time I did not meet anybody; but pretty soon I saw a man in a lot, with a halter, probably after his horse. I wanted to ask him how far it was to the station, and then I began wondering how I should address him. I might have said, "Good morning, sir;" or instead of "sir" I might have said "friend;" but some way it seemed as if the best way to call him would be "neighbor." I have a good deal to say about neighbors, you know; and, come to think of it, I am thinking a good deal about neighbors these days. So I said, "Good morning, neighbor." I then asked him the distance, and he replied in a very friendly and neighborly way.

Pretty soon I met a man with a dinner-pail in his hand, and he looked as if he worked on the track. I called him neighbor too, and he was very polite and courteous. Does it really hinder a man from being a neighbor because he has mud on his clothes, or because he is a foreigner, and uneducated?

A mile or two further on was a man sitting on the track, smoking a pipe. Now, I do not like pipes, you know, and I am dead set against tobacco; but for all that, I felt that I could call him neighbor with as clear a conscience as any of the others, and I do not know but more so, for he was a neighbor who, it seemed to me, was wasting his money, probably injuring his health, and pretty certainly setting a bad example. I felt drawn toward him more than I did the others, perhaps, for I felt anxious about him. There was not time for me to speak and talk with him about tobacco, even if that had been the thing to do. But there was time to let him know I felt kindly and neighborly toward him, even though our opinions might have been a good deal different on many subjects. He, too, seemed to show by his words and looks that he felt kindly and neighborly toward myself.

May be you would like to know how I came so far away from home between four and five o'clock in the morning. Well, I had been to a great political meeting. Did you think I never had any thing to do with politics? Well, I have not had very much, but I begin to think I ought to have more. I went to hear a great man speak, and I was very glad indeed that I did hear him speak, for he taught me many things, and made me feel how small a man I was, and how little I knew of the machinery of this great nation of ours. I told you he was a great man; he is, in fact, a candidate for the presidential chair. A great crowd of people were collected to hear him—many thousands, perhaps. The largest church in the city was used, and yet the audience was so great that they had to get another building, and have what they called an "overflow" meeting. After our distinguished speaker had finished, another man of some note made a speech. I am sorry he did, for several reasons. First, it was ten o'clock, and it seemed to me there had been speaking enough. Secondly, it seems to me that the effect of any great speech is much diminished by hearing a man with comparatively little talent after him. Worst of all, this man was not neighborly in his talk and remarks. He made the people laugh a good deal; but it seems to me there are times when laughing is not just the thing. I will mention only one thing that seemed unneighborly. The building was filled with people of different views, and belonging to opposing political parties. He put up his right hand and said, "I wish I had the —— party by the throat with this right hand, and then I wish I had the —— party by the throat with my left hand." And then he with strong language told how he would choke the life out of both of them. A good many sad things were told during the evening, and facts were brought to light showing that there is, without doubt, sinfulness and wrong-doing in political circles. But, dear friends, how are we going to remedy these things? It seems to me that *choking* is not just the thing to do, or even *talk* about. I should like to get the poor friend, whom I met in the early morning, to give up his pipe and tobacco, and seek enjoyment in something better in their stead. But, do you think I should succeed by choking him? God forbid! His neighborly feeling toward me would be gone in an instant, if I should even talk about it; and from what I have seen of human nature, I should expect him to use even more tobacco, and try to get everybody else to using it, just because I had been so overbearing and harsh and unneighborly. Suppose, instead of talking about choking, I should get acquainted with him, and in a neighborly way point out to him the evil results that come from tobocco, the example he is setting to our youth, etc. I even might, as a piece of pleasantry, offer to make him a present of a smoker, if he happened to keep bees, and no unpleasant consequences would follow at all, even if he did not accept my offer. Do you not see?

There is, indeed, trouble in our political affairs. The speaker said last night that the proposed second amendment to the constitution of the State of Ohio, for which we worked so hard a year ago, was, without doubt, fairly carried, had it not been for the frauds perpetrated in counting the votes. I asked several men of intelligence if they thought this could really be so, and the general opinion seemed to be that it was probably true.

Just now a great deal of money is being expended in buying votes, or in something that amounts to about the same thing. Now, if it be really true that we are unable to have an honest record of our votes, and also that our laws are not made by the people, but by the money of unscrupulous men who will stoop to buy votes, what are we coming to? Can it be possible that we have voters so lost to any sense of honor that they will, instead of voting according to the honest dictates of their conscience, sell their votes for a few pieces of silver? If such is the case, the prospect before us is sad, very sad. It is sad to think there are men who would want to buy votes. It is sad, too, to think there are those who would sell their right to vote, and sad to think there is a citizen of this great republic who would want the count to be other than an honest, true count.

The fault is not with any one set of men. It is not alone with the leaders. It seems to be scattered abroad in human hearts. It is because there is sin in the world. And now, dear friends, what shall we do with this sin which is in the world? Only one remedy has ever been found equal to all emergencies, and capable of subduing sin in all its phases, wherever found. "The blood of Jesus Christ cleanseth from all sin." "There is none other name under heaven given among men whereby we must be saved." The responsibility rests upon us, dear friends, and through honest votes our nation is to be saved. But these votes should be given from the heart, and before God, and no outside matter or interest, no earthly consideration, should sway or make our judgment waver one iota. Let us cast our votes in truth and sincerity, and let us do it as something sacred before God, and then may we rest on the promise that Christ our Lord and Master has given us: "Blessed are they that do hunger and thirst after righteousness, for they shall be filled;" and in grappling with sin and fraud and injustice, let us bear in mind that those who are seemingly lost to all that is sacred and holy are our *neighbors* still.

KATY DID.

ALSO SOMETHING ABOUT WHAT MRS. HARRISON "DID."

KATY did, Katy did, Katy did, Katy did, Katy did, she did, she did—you know how they go on all the night through—never stopping to take breath — they don't need to — caring nothing for nervous people, nor for sick ones who toss and turn and wait for another day—Katy did, Katy did, for ever, with only a few, a very few Katy didn'ts thrown in to break the endless round.

Well, the Katy did that I am going to tell you about is not this kind at all, but a very fat little girl whose name is Katy Harrison.

You all know Mrs. L. Harrison? Up go a thousand hands, and you say, "Yes, she's the woman that finds homes in the country for poor children." Then another thousand hands go up, and you say, "She's the woman that writes for the JUVENILE about honey-cakes," and still another thousand hands go up, and you say, "She's the woman that wants all the children to *learn to work*," and you will all be right.

Mrs. Harrison has no little girl of her *very own;* but when she went east three years ago she had made up her mind to adopt a little girl, and she went to an orphan asylum where they had 300 children, and told them what she wanted; and the matron brought in three of their most promising children for Mrs. H. to see, and they stood up before her, one aged 11, one 5, and one 3. She had just made up her mind to take the "little one" when the five-year-old stepped up to her and said, "I likes you, lady; I wants to go home wiz you; take me;" and that was too much for Mrs. H.'s mother-heart, and she took her.

Mrs. H., in speaking about it, said, "I liked her because she was such a neat little thing. I am fleshy, and all my folks were, and so is Mr. H. and all of his people, and we are always dieting to keep down our flesh, and I thought it would be pleasant to have some trim little body around; but, alas and alas! she weighs 97 lbs., and, just look at her! the boys in the street call her 'Jumbo,' and 'Fat-legs.' What shall I do?

"We took her up stairs the first night, and put her to sleep with Jessie; and just as soon as she touched the bed, and before I could get my hairpins out, she was fast asleep and *snoring*—and such snoring! I don't care for katydids in general, nor for lambs bleating; and I think a Mississippi steamer, with all its racket, a splendid place to sleep; but Katy's snoring was worse than any thing—such awful, nerve-splitting noises—such spluttering and catching of breath! then such a rushing forth of locomotive puffs, then some sad notes, such as a rain crow makes before a storm; then great snorts and gasps, that seemed as if they would tear the child's throat to pieces, and all of them intermingled with catches and gurgles that kept me thinking she would surely choke to death. Then she would go on regular for awhile, getting lower and lower down the scale, and my hopes would begin to rise; but with a snort she would start out afresh. I have read in newspapers that if you turn a snoring person on his side he will shut his mouth and stop. I thought I would try it on Katy; but you might as well try to turn over a broken egg with your fingers; as fast as I turned her over she just flattened out the other way, till I gave up in despair. And this is what Katy *did*—kept me awake all night long, and quit even with them in the morning." MAHALA B. CHADDOCK.

Vermont, Ill.

BEE-KEEPING IN MICHIGAN.

WHAT A BOY OF 14 YEARS DID.

THE goods I bought of you last July, 148 lb., retailing-case and 50 wooden separators, came to hand in good shape, and I am well pleased with them.

I will give you a little history of my bee-keeping. Two years ago I bought 3 colonies of hybrids in Imperial hives, and by the next fall I had 6 swarms and not quite 2 lbs. of surplus. Went into winter quarters in Nov., 1883; wintered all safely through. In the spring, one colony that I had just transferred into the L. hive absconded, leaving me 5 to begin 1884, with 2 of them very weak. They swarmed but once this summer, making me 6 to go into winter quarters with this fall, the same as last fall. I have taken off about 75 lbs. of surplus from three colonies. About two weeks ago I received a Holy-Land queen from Add Wood, Rives, Mich., and introduced her successfully in the Peet cage. Up to this time she has laid 3 or 4 Simplicity frames full of eggs.

I could not get along at all keeping bees if I did not have the A B C book. I mean to take GLEANINGS if I can spare the money next year.

I will tell you how I fixed those wooden separators. I took a strip of tin ¼ inch wide, and cut it as long as the separators are wide. Laying the separators on the frames just right, then lay on the tin, and nail through that, and it can't fall off.

CLARENCE W. BOND, age 14.

Jackson, Mich., Sept. 28, 1884.

THE BUG-HUNTERS.

A SHORT LESSON IN ENTOMOLOGY.

"THERE it is! catch it!" "Don't let it get away!" "Take care!" "Let me!" "Oh dear! it's gone!" "No, here it is again!" "Now I have it!" And Minnie held her scoop-net so that all could see the most gorgeous butterfly they had caught yet—yellow and gold and black, with its large wings spread out like fans, and then away they all went to smother it with ether, and mount it.

Minnie is going to study "Bugology" next winter, and she has been collecting specimens all summer. At first she went out alone with an old straw hat and a bottle of carbolic acid; but now she has the other children, her papa, the hired hand, her uncle James, and all the neighbors' children to help her, and they have scoop-nets, made of old mosquito netting and barrel-hoops, and the crawling, creeping things, after being impaled alive on a pin, are mercifully smothered with ether. They have cigar-boxes to keep them in, and each individual bug or beetle is mounted on a very thin slice of cork.

They have two boxes of butterflies that are "just lovely." Yesterday they showed them to a lady, and she thought they were made of wax, like wax flowers. They are arranged in groups, with the colors shading off to the edges, or else the colors are contrasted, so that a brilliant effect is produced, as pleasing to the eye as the dyes of Eastern make, or the work of the artist's brush. Every child can make a collection; all that is needed is a pin and a butterfly to start with; and after the interest is once aroused, all the other things will gather around until a beautiful and useful collection will soon be framed. Even the baby has caught the enthusiasm, and every day he comes in with bugs and worms squashed up in his tightly shut chubby hands; and, displaying his treasures, he says, "They are for Minnie's *museerum*." They have a box of cute little snakes, with the curl in their tails just as natural as life, and they have snake-feeders, and katydids and katydidn'ts, over one hundred specimens in all. Who of the GLEANINGS family of children will start a museum right away? MAHALA B. CHADDOCK.

Vermont, Fulton Co., Ills.

Mrs. C., your lifelike sketch reminds me of a visit I had with Prof. Cook. We went across the country a piece to meet a bee-friend, and on the way he would run and grab for great ugly green worms and caterpillars, in a way that almost made me shiver; and then he put them into a tin box so he could carry them in his pocket. It seemed to me as if they would bite or sting; but he declares that neither spiders, bugs, worms, nor caterpillars ever bite or sting. Honey-bees and the wasps are the only kind of insects to be feared in that way. I agree with you, my friend, that every town should have its entomologist, or, lacking that, some juvenile to collect and preserve the bugs and worms and butterflies that are common to it. Your talk about the baby reminds me of Huber's way of collecting such things. One day his mamma poked her finger into his mouth and fished out a cricket.

THE BOYS' PICNIC.

A KIND OF PICNIC THAT PAYS.

IRVING was stripping the blades from the cane-stalks, in the truck-patch north of the house; the day was hot, the sweat kept trickling down under his ragged hat-brim—the cut places on his hands smarted, and the big buckskin gloves that he now wore to protect his hands were six sizes too large for him, and he was tired and uncomfortable in every way; he sat down on a pile of blades and began to wonder why it was that birds and colts and calves and snakes and lizards and every thing could live without work, and little boys could not—and he thought and thought, and slid down lower and lower on the cane-blades, and presently he was fast asleep with the sun shining in his face and the birds singing overhead. But presently he awakes with a "hello" and a "hurrah" ringing in his ears. It is the Phillips children, and they have come to offer him their help to strip the cane; they will help Irving and he will help them back, and they fall to work with stout sticks, and *whack, whack* go the sticks, and the talk and laughter come to me through the window, and Harry and little Shane are kept busy carrying water in the old coffee-boiler that has no lid, and I say, "Why, they are having a perfect picnic—no work at all—" and the cane is now finished, and away they go to the woods to cut "stilts" to walk on, not a sleepy boy among them. Now, is there some other lonely little boy somewhere stripping cane all alone? and can't he find some little neighbors to help him?

Vermont, Ill. MAHALA B. CHADDOCK.

Mrs. C., you have hit the nail on the head exactly. How shall we manage to get our children to enjoy work, rather than to consider it drudgery? It makes a wonderful deal of difference in this world, whether we go about our daily tasks with energy and zeal, or whether we take them up as hardships, and do them complainingly. When I was a boy I used to have to saw the wood for my mother to bake and iron, and it used to be a great hardship; and well do I remember the hot summer day when I sat down and meditated on the matter. I fell to wondering why I could not study up some plan by which the wood-sawing could be made to seem as pleasant as building a pond for my new saw-mill. I did it as follows: I decided to build a monument — one that should attract the attention of the passers-by (if not the whole world at large), and the monument was to be made entirely of fire-wood. I pulled off my coat and went at it, and before night it towered above the kitchen where stood mother's cook-stove. After I got it built, of course I was obliged to keep wood on hand, or my sisters would pull the pile down to replenish the fire, and so the woodpile got all sawed up and split up, and I had fun in doing it too.

AUNT KATIE TALKS TO US ABOUT CHEERFULNESS.

CAN OUR NATURAL DISPOSITION BE CHANGED?

DEAR CHILDREN:—Have you heard it said, that a cheerful spirit maketh the heart glad? Now, you and I know lots of boys and girls, and the ones we like best are those who are always cheerful and ready for fun.

"I don't go with Blanche any more, for she gets mad so easy," was the remark made to me recently. Now, that same Blanche is a bright, smart girl, but she has that fault of getting vexed at words and actions that were not intended to wound; but being so self-conscious they are taken to heart; hence the coldness of spirit manifested.

Now, Jennie is another kind of a girl. If any thing is said or done not just right, according to her idea of right, she looks grave, or may be comical, for a minute, and no further notice is taken of it, and all goes merry again. One girl is just as smart and intelligent as the other, but how much more comfort the last one imparts than the first!

Now, boys and girls, I know that we can change our natures very much if we try; and as we like pleasant people, let us try to make ourselves so that people will like us; for we in anger may think that we don't care whether we are liked or not; yet in our hearts we do care, and a cheerful spirit maketh our hearts glad, and all those around us glad too. AUNT KATIE HILTON.

A VISIT IN CALIFORNIA.

SOMETHING ABOUT GRAPES.

WE went for a ride to a place six miles from here one day last September, that I will tell you about. I knew the people, but had never been at their house; and when I got there I was very much interested. The family are Spanish, real "high toned," as we say here, for very nice people. The house was built of adobe—that is, a kind of stiff earth that is made into bricks about as large as eight common ones. They are merely dried in the sun, and then laid up with mud, and generally they are plastered up on the outside with lime, to keep out the wet. Well, this house was made in that way, and the walls were three feet thick, and not more than ten feet high. The windows and door-casings looked like a lot of cupboards set around, and the windows were heavily grated with strong iron bars.

Mr. Estrada, the owner, said that when he built the house he had to work with a musket by him, and that for a number of years they were afraid of their lives from the wild Indians; but after the white men got to living here, the Indians were driven off, or made to behave themselves. I am very glad I did not live here then, are not you? for I am afraid of the wild Indians, and I should not have been happy at all. Well, after times got more settled, Mr. Estrada set out some fruit-trees and vines. You will wonder where he got them. I did, so I asked him, and he said that at all the Catholic mission buildings the priest had set out fruit. Some had come from Spain and other countries; and when any one wanted cuttings or seeds, the padres, or priests, had given them all they wanted. There was not much left of those trees he had first set out, but the grapevines were a sight to me. All around the house they had built a trellis about ten feet high and 12 wide, by 30 long, each way, and then they had planted three vines in front of the house and three behind, and those 6 vines covered that immense trellis all over thick; and when I was there in September the fruit was mostly ripe, and looked so lovely, the great purple bunches hanging down through the trellis, and the beautiful leaves just above them. I thought they surely had not picked any of the fruit, as there was so much above our heads; but they said they had picked and sold a ton. You may be sure the house with its thick walls, its great windows, and heavy doors, and that monster trellis covered with grapes made a unique scene.

I had heard music when we drove up; and when we entered the house we saw a large piano and a fine guitar lying by it. Of course, we asked for some music. I can not resist that temptation, when I see musical instruments, and one of the daughters played us some lovely pieces. The piano had been played upon until its keys were hollow, but it sounded very nicely. The owner of the guitar, one of the sons, could not be prevailed upon to play, as he said he was only learning; but he brought us some grapes; and while we were eating them we could not help thinking of the difference between the present time and the time Mr. E. had been telling us about, and of feeling thankful that those wild times were over, and that peace prevailed in this lovely land. MRS. J. HILTON.

Los Alamos, Cal.

BEE-STINGS OR WHISKY.

MRS. HARRISON TALKS TO US A LITTLE IN REGARD TO THE GREAT ISSUES OF THE DAY.

CHILDREN, a good many of you in your letters have said that you would like bees better if they did not sting. A bee-sting is no joke, is it, when it is on the lips or nose? Sunday-school scholars all over the world are now studying about Solomon; I am too. He is called the wise man, and he tells his son not even to look upon wine, for "at the last it biteth like a serpent and stingeth like an adder."

Some bee-keepers advise whisky to cure a bee-sting. Which is the worse, a bee-sting or a whisky-bite? I have seen persons who had been bitten by whisky, and their nose was all swollen up, and so red it was nearly purple, and their eyes were sore and running, so that they could hardly see, and their faces full of big red blotches. When we are stung by a bee on the nose, it may swell and look red, and shut up our eyes for a few hours, when it gets better; but does a whisky-bite get well so soon?

The women of Illinois, who belong to the Women's Christian Temperance Union, are holding a convention in the largest church in this city. They have left their babies, and their boys and girls to go to school, and come here to work "for God and home and native land." Across the organ is this motto, in large letters: "O woman! Great is thy Faith! Be it unto thee even as thou wilt."

Miss West is the president. What a grand name! West! She is a power in the land; with her strong arm she is able to lift the drunkard upon his feet. She would tip the scales between two hundred and fifty and three hundred. Her large mind, and great generous heart would not have room in a small body.

Does your mother ever attend any of these meetings, and listen to Miss Frances Willard, President of the national society? or Mrs. Judith Ellen Foster, national superintendent of legislative work? She would be a better mamma than she is now, if she did. Tell her that you will all be good, and take care of the little ones, and you can bake apples and potatoes, and eat bread and honey, while she is away, and papa will be at home nights.

Mothers are so afraid that "the cow will eat up the grindstone, or jump over the moon," that they stay at home, and grow ugly and cross. You all love your mammas, don't you? Then let her have a change. I'm like King David: "I once was young," but now I'm gray-headed; yet I have never seen that the children of those devoted mothers who say, "It is my place to stay at home and take care of my family," are any better, or as good, as those who left home occasionally, both to get good and to do good. MRS. L. HARRISON.

Peoria, Ill.

WHAT THE STARS HAVE SEEN.

Where is he that is born king of the Jews? for we have seen his star in the east, and are come to worship him.—MATT. 2:2.

TAKING the world at large (aside from the astronomers), as we step out on a clear starry night we are apt to view the stars as a rather insignificant sight in comparison with the silver moon reigning in silent majesty, queen over all. And yet the stars have seen more than any human being ever saw. At the moment the Almighty pronounced the words, "Let there be light," millions of stars sprang into existence; they saw the creation of man, and formed the first choir that sang the first anthem ever sung on earth, "when the morning stars first sang together." They saw the garden of Eden in all its freshness and beauty. They heard the command, "Of every tree of the garden thou mayest freely eat; but of the tree of the knowledge of good and evil, thou shalt not eat of it." They saw that command disobeyed, and the disobedience punished; they heard the promise of a Messiah, and beheld the first murder, and the terrible flood which destroyed every living thing on the face of the earth. They saw the ark, with its precious burden, withstand the fury of the tempest, which the hand of God had sent upon an erring world, and finally rest in safety upon the mountains of Ararat. They witnessed the building of the tower of Babel, and all the interesting scenes which occurred from that time to the birth of the Savior. At that great event it was a star that guided those wise men on their journey. They traveled by night and slept by day—on, on,

Till the star stood still
Of its own free will,
O'er Bethlehem's hill.

This was the city of Christ, where, cradled in a manger, the infant Jesus lay. I think the stars must have looked down with admiration and wonder on his life-work, and with horror and astonishment they beheld him nailed to the cross, and reviled by his fellow-beings. You know, all nature sympathized with that dreadful scene; the sun veiled his face at such a sight; the rocks were rent, and the graves opened. The stars saw him buried, and it was the stars in their silent watch at night that saw that stone rolled from the sepulcher. They saw him ascend to heaven, and since that day the stars have witnessed many strange sights; have seen the rise and fall of great nations and empires, but never any thing so wonderful as the life and death of Christ, and never will till he comes forth again in all his glorious majesty to judge both the living and the dead. AUNT VIE.

Rockton, Ill.

JUVENILE DEPARTMENT

Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows; viz., Sheer Off, The Giant-Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

"A chiel's amang ye takin' notes;
An' faith, he'll prent it."

I WONDER how many of the children who read this juvenile bee journal are really happy children. Do you enjoy life? Is it fun for you to get up in the morning and do your allotted work? or do you repine and complain, and wish you did not have to work? I hope there are not many of this latter class, for one can by no means have a good time in this world when he does what is to be done, grudgingly and complainingly. And another thing, you can never be happy if you are always at work for yourself or thinking of yourself, and never at work for others and thinking of others. Strange, is it not? but yet it is so. People who are working for the general good of others are happy; but those who are all the while trying to get all they can for themselves with the least exertion, end in being very, very unhappy, if they are not unhappy and discontented in the outset.

Pa had 15 swarms of bees last fall, and all died but 3. They all were in patent hives except 3, which were in L. hives. They had plenty of honey.

Sitka, Mich., Aug. 30, 1884. J. C. CRAWFORD.

LEARNING VERSES.

My uncle has 26 stands of bees. We moved 12 of them 200 miles. I go to Sunday-school every Sunday. I took the first premium for learning verses.

JIMMIE LOCKARD, age 8.

Sears, Osceola Co., Mich., Sept. 21, 1884.

THE LOST BEES.

My father hunts bees, and has found four swarms. Mr. Hyde has just lost a swarm of Italian bees, and my father has been hunting for them.

NETTIE M. WATSON, age 9.

Pomfret Landing, Conn., Aug. 27, 1884.

MINNIE'S LETTER.

My father has six swarms of bees. He has made some American hives for his bees this year. I go to school now, and study reading, spelling, arithmetic, geography, and grammar. I have written two letters before, but haven't seen either in print.

MINNIE FORBES, age 12.

Macedonia, O., Sept. 20, 1884.

Pa has 6 swarms of bees, and he has not got 20 lbs. of honey in all summer. What do you think is the reason? PERRIN CRAWFORD, age 6.

Sitka, Mich., Aug. 30, 1884.

I guess, friend Perrin, the principal reason is the dry weather in the latter part of the season; but may be your father did not take care of them right, and get what he might have done.

CLEANING OLD HIVES.

I am a German boy 8 years old. I like to write. My brother George had been writing, so I thought I had better write a letter. I had to help in the apiary. I had to clean old hives. I like honey, but I do not like to clean old hives, and I hope we shall not have such a winter as we had 3 years ago, when the bees stopped up their hives so bad, and left the hives for me to clean. FRED HILLENBRAND.

Sun Prairie, Wis., Jan. 28, 1884.

LETTER FROM A LAME GIRL.

I am a little lame girl. I have been lame for three years. We live in the Coast Range of mountains, 30 miles from the ocean. It rains very much this summer. We came from Minnesota two years ago. I never saw any bees till we came here. I never saw any comb honey either. I have three sisters and two brothers. I have never been to school. I read in the Second Reader.

ANNIE A. NASH, age 12.

NETTIE'S LETTER.

My pa keeps bees. He has 23 stands. They did not gather much honey this year, there was so much rain. There was no honey-dew this year, so we have to feed the bees. I have been to school only five months. I read in the Second Reader. My mother teaches me at home. I have a little brother named Ernest Clyde. NETTIE M. NASH, age 10.

Willemina, Yam Hill Co., Oregon.

AGNES' LETTER.

My pa keeps bees, but he is going to sell them. I and one of my schoolmates are going to write to you. I wrote to you once before, and got the good book of the Roby Family. I do not like to get stung very well. I like to go to school. My teacher gives a prize, and I am going to try for it. What do you think is best to put on a sting? AGNES DUNLAP.

Dwight, Neb., Sept. 23, 1884.

DON'T KILL QUEENS TOO SOON.

I have 7 colonies of bees, all Italians, in Simplicity hives. I had one colony that was too weak to keep all of the eggs warm that the queen laid. When I first found this out I thought she was a fertile worker. I did not kill her, but instead I reinforced her with more bees; then I awaited the results. In a few days I looked at her again, and she was laying all right. ALONZO RUSK, age 13.

Milwaukie, Oregon, Aug. 25, 1884.

That was a great joke you got off on me, calling the bees "skips;" for now all my folks call me "Skip," and so I think I shall have to call the bees skips of bees. My brother gave me the skip of bees, and they increased to two, and they were not very large, so papa put them into one hive and they made 25 lbs. of honey this summer. How I should like to see little Huber!

GEORGIA MAY WILLIAMSON, age 9.

Covert, N. Y., Sept. 22, 1884.

NINA'S REPORT.

Pa has 110 colonies of bees; he got about 4000 lbs. of comb honey. He has a honey-house. He has had only one new swarm of bees this year.

NINA M. ROTHWELL, age 12.

Austinville, Pa., Sept. 24, 1884.

GOING TO HAVE SOME BEES.

My papa has no bees, but he is going to get some this fall. I have no playthings, but I have two little ducks and ten chickens. I believe I like Ten Nights in a Bar-Room. I go to school all the week, and Sunday I go to Sunday-school.

CARRIE PERCEFIELD, age 10.

Dividing Ridge, Ky., Sept. 24, 1884.

CUTTING A BEE-TREE.

I received Ten Nights in a Bar-Room, and was much pleased with it. My brothers cut down that bee-tree I spoke of in my last letter. There was some old comb in it that some bees had built years ago. We took the bees out and hived them. They did not have much honey in the tree, so we put some comb in the hive and they began to gather honey right away. MARY STANTON.

Hutchinson, Minn., Sept. 22, 1884.

DON'T WANT ANY MORE BEES.

My papa does not keep any bees now. We don't want any, because they sting too badly. I have been stung three times this summer. My schoolmate is writing. I go to school. I have a good teacher. We have 14 scholars now, but will have more after awhile. I like to go to school. My teacher gives a prize. I want to get it if I can. I am going to try. MATTIE L. KECK.

Dwight, Neb., Sept. 23, 1884.

WANTED, A TINNER.

I want to let you know that I have a stand of bees besides one that pa gave me. I help pa work with the bees. I went with him to the fair. We took with us hives, bees, and honey. We had an observatory-hive. Folks would come up around it to see the queen in the hive. They wanted to know lots about bees. Pa would tell them all about bees and hives. We are going to the Danville Fair. Pa is going to buy and sell honey this fall and winter, if he can get the money to buy it with. We are going to build up a big trade in hives and honey. Ma and pa think you and Charles Dadant are good men to deal with. We want a good tinner in this town. There is not a tinner here, but a good place for one. Can you send us one? SAMMY LINDLEY, age 5.

Georgetown, Ill., Sept., 1884.

HOW THE ITALIANS CLEAN OUT THE WORMS.

Papa has between 50 and 60 swarms of bees. He has three kinds — Italians, hybrids, and the black bees. Some time ago pa found among his swarms a hive of black bees that the worms had nearly finished. He did not tear them up just then. By and by a swarm of very cross Italians came out of another hive, and pa put them in with the wormy blacks. He watched them. They at once began to clean the hive of worms, carrying them far out into the garden, away from the hive. The hive is now free from worms. HATTIE G. COLVER, age 12.

New Lisbon, Wis., Sept. 9, 1884.

Very good, Hattie. I have seen Italians introduced to a black colony, set right to work and clean out the worms in just the way you mention.

WINTERING IN COLD WEATHER.

My pa bought 2 stands of bees last fall. They came through all right last winter, and we have had as cold as 20° below zero. We keep them in double-walled hives. My pa put the section boxes on when the apple-trees were in bloom, and, in fact, they haven't swarmed yet all summer, and didn't get much honey; but they did better than any of the bees around here. My pa is very fond of bees, and likes to tend to them; we all are very fond of honey. I like to read GLEANINGS.

MALINDA BOSCHULTE, age 10.

Quincy, Ill., Sept. 21, 1884.

CHASING THE RUNAWAYS.

We have had a good crop of clover honey, but the basswood was a failure. We have had two swarms; they flew away. The first, we ran after, and left the doors all open, and put for the bees over a field till at last they came to our bush and arose over it and then we had to go by sound, so we got through ahead of them and waited for them. They flew over in the corner of the bush adjoining, and flew in a hollow oak-tree about 45 feet high, and we watched them a short time, and came home. Three days after, mother and father went over and burned the tree down, so next morning they went over again and fetched the bees home, and they are doing well.

George got stung on his neck at 8 o'clock at night, and at 1 in the morning he could hardly speak, so mother put hot water on, and it gave him relief.

ROSEY SMITH.

New Hamburg, Ont., Can., Sept. 23, 1884.

HONEY VINEGAR.

I have been a reader of GLEANINGS for one year, and like it ever so well. My papa is a beginner in bee-keeping, and likes it very much. He has 16 colonies of bees; he started one year last May. I think he is doing pretty well for a new starter. He has not lost any yet. Can you give me a recipe for making vinegar out of honey, or any thing else?

ELIZA HOWELS, age 15.

Lake Side, Cal., Sept. 9, 1884.

The recipe given on page 273, of this volume, is probably as good and simple as any, friend Eliza. You will find a good deal said on the subject in our back volumes for two or three years, also in the A B C book.

WHAT AILED THE BEES?

My pa keeps bees, and I like to be around them. I like to help pa take the honey out of the hives. Last summer there was a lot of our neighbors who sent to Illinois for Italian bees, and pa among the rest, and the bees all died through the winter with the dysentery. Some of the folks thought the bees were diseased when they came. Do you suppose such would be the case? Pa had four swarms last fall. There was only one that came through the winter. He bought two swarms of Italian bees this spring.

FRANK GREGG, age 11.

Salford, Ont., Can., Aug., 1884.

I do not think, Frank, the bees were diseased when they came, for dysentery is not a disease that bees would carry with them. The only contagious disease we know of is foul brood, and that is contagious in only one way, so that it is comparatively easy to control.

RABBITS, ETC.

One of my rabbits that I wrote about before has nine young kids. I think one of the other does has young ones too. We have got a pig, and we call him Governor. Something has been killing our chickens. I think it was a cayote. I like to hunt (when I can find game), and shoot hawks on the wing. I enjoyed the two books I got from you. I like to shoot jack rabbits when they are sitting on their hind legs. We got our first pair of rabbits from A. A. Fradenburg. Do you ever get out of patience because we children write so many worthless letters? IRVIN CRAIG.

Empire, Dakota, Sept. 3, 1884.

No, Irvin, I never get out of patience with children's letters. I have far weightier trials to try my patience than any thing that the juveniles furnish. The Bible says we must add to temperance patience, and to patience godliness. Do you know where it says that?

BEES THAT WOULD NOT STAY HIVED—AND BITTER HONEY.

My pa bought 4 stands of bees last winter. They kept swarming till he had 12 stands, but the worms killed out one this summer. He had a swarm that came out one day that stayed in their new hive but a little while till they went back where they came from. The next day they swarmed again, and were put in the same hive again; but they went back to their old home once more. The third time they came out again soon after breakfast, a larger swarm than they were the other two days. This time pa wet the hive with salt water on the inside, and they stayed then.

Pa took out 4 frames of honey one day last week, and we children were all around waiting for ma to cut us out some; but the first we got did us for that time. It was nice looking, but so bitter! Ma says the bees must have got it from dog-fennel; but pa says he thinks they got it from poison-oak.

Sparta, Miss. HATTIE HALL.

Friend Hattie, I hardly believe the salt water had any thing to do with making the bees stay, unless the dampness kept the hive cool, which might have been one reason. In hot weather, bees object to a hive that is very warm—one having stood in the sun for some time, for instance.—We should be glad to know where the bitter honey comes from, if your pa can find out.

WHY DO WE INTRODUCE A QUEEN?

I like to read GLEANINGS and the JUVENILE. In my holidays I went to Port Hope to visit Mr. Stores, a friend of ours, who has between forty and fifty bee-hives, and also having a few of GLEANINGS I began to be interested in them. He said I ought to subscribe for it, so ma gave him the money to send for it. My pa is an engineer on the Midland Railway, so not having much time he has no bees; but in any spare time he has he is reading GLEANINGS. I shall be 13, Sept. 24th. I like school and studies, and was glad when school commenced. I am not quite old enough to want a price list, as you sent me one; but I like reading and looking through it. How and why do you introduce a queen into a hive? HERBERT MOOR.

Toronto, Can., Sept. 22, 1884.

Friend Herbert, we introduce by taking out the old queen, and putting the new one in her stead; and the reason we do it is, because by changing the queen we change the kind of bees. The queen, you know, lays all the eggs, therefore she is the mother of the colony; so if we take away a black queen and put in an Italian, pretty soon all the black bees will be gone, and we shall have a hive full of quiet yellow bees, in place of the cross black ones.

A GOOD REPORT FROM DOOLITTLE'S COUNTY.

I was so glad that you printed my letter that I sent to you some two years ago, I thought I would write to you again. My pa has now 118 swarms of bees, but they have not given us much honey this season—only 1100 lbs. Last winter and spring I nailed over 4000 caps for pa, and when he took the caps off the hives I extracted the honey from almost all the partly filled caps. It was just fun. The honey would come out very quickly. Pa says he will give me all the bees I can take care of when I get older. He is feeding some of the bees now. Some of the hives he raises up in front, and pours the feed right in on the bottom of the hive at night. Last year we got 6500 lbs. of honey.

FRED G. MASON, age 10.

Fabius, Onondaga Co., N. Y., Aug. 11, 1884.

STRAWBERRIES IN APIARY, ETC.

Many thanks for the book you sent me. I think your neighbor was in about as bad a scrape as pa was by not nailing the top of his hives on, for pa's mule did not run away. We have some little strawberry neighbors too. Pa went after the sprouts and brought them home, and set them out. Then they had to be watered every day, for the weather was so dry that all of the leaves died on them; but I kept right on watering them until the roots began to sprout. Pa carried some one-pound section boxes full of honey to Washington, N. C., and sold readily at 15 cts. per lb. They were a great curiosity in Washington, for the people had never seen any thing in which the bees weighed their own honey. Pa is making his apiary, and setting it out with strawberries until his trees grow large enough to draw the strength from the ground, then he will move them somewhere else.

My school was to start yesterday; but on account of diphtheria being here it has been put off until the 24th inst. The Rev. Mr. Hughes, D.D., is principal. We have church and Sunday-school every Sunday. I like very much to read Quinby's new book on bee-keeping. It is a nice and interesting book. I have a very nice rifle, but have not a cleaner. Have you a rifle-cleaner in your counter store? If you have, please let me know the price. My rifle is 22 caliber.

After the wax has been in the extractor, how do you heat the extractor so as to melt the wax?

Chocowinity, N. C., Sept. 11, 1884. E. V. COX.

Friend E., I have never kept any thing in the counter store belonging to firearms. In fact, I do not quite believe in rifles or shotguns or revolvers—at least, I do not believe we need them in civilized and intelligent communities. If you look over the daily papers, you will see that we are having deaths and mutilated bodies almost constantly, because of accidents by firearms. If they do more harm than they do good among people in general, would it not be best to give them the "go-by"?

OUR HOMES.

If any man will come after me, let him deny himself, and take up his cross, and follow me.—MATTHEW 16:24.

THESE words have been repeated so much that doubtless many of us have almost forgotten their real meaning and import; and I fear that a good many of us have never thought of the circumstances which brought them forth. The sixteenth chapter of Matthew is indeed a wonderful chapter. Jesus had been having a talk with the Pharisees and Sadducees, and, as usual, they were trying to entrap him with their sophistry. After the talk was ended he turned to his disciples and bade them beware of the leaven of the Pharisees and Sadducees. They, poor fellows, did not understand his words, but thought they had something to do with the fact that they were out of bread. He reproved them gently for this want of faith, and asked them how it was they had so soon forgotten that he fed five thousand with only five loaves. Finally they caught the idea that they were to beware of the doctrine and influence of these Pharisees and Sadducees. Neither the disciples nor those people of whom we have been speaking understood or comprehended what it was he labored to teach, or what it was to have Christ's spirit. They seemed utterly incapable of comprehending the existence of any one, either human or divine, who could be utterly free from selfishness, or outside of self. Finally he turned to them and asked, "Whom do men say that I, the Son of man, am?" They gave a diversity of replies, and he finally asked them the question direct, "But whom say *ye* that I am?" I can imagine a brief silence. Perhaps they looked from one to another, hesitating to speak out just what they thought of him. Judas, probably, could not believe that Jesus was not selfish and narrow, like humanity in general; perhaps doubting Thomas had often pondered on the matter, but did not yet feel quite satisfied that he was really and truly the Son of God. Impulsive Peter finally speaks right out—"Thou art the Christ, the Son of the living God."

Now, I am not really sure that Peter was so much in advance of the rest, as this speech would seem to imply. In fact, what followed afterward seems to indicate that he was as much at fault, or perhaps even more, in comprehending the true spirit and mission of the Savior, as any of the rest of them. His outspoken fearlessness and honest confession of his Master was, however, commendable, at all events, for his Master paid him a great compliment for it. I think it would be well for many of us if we had a little more of Peter's impulsiveness, when there is urgent need that somebody stand up fearlessly and take the lead. Jesus replied, "Blessed art thou, Simon Bar-jona, for flesh and blood hath not revealed it unto thee, but my Father which is in heaven." Then followed a sacred and solemn promise to Peter, involving a prophecy as well. But, little did the poor fellows, any of them, comprehend or realize what was involved in this promise and prophecy. While they were on this subject, Jesus seemed to think it proper and fitting that he should tell them, or perhaps remind them, that his kingdom was not to be in achieving great things here among men, but that he should suffer and die. Once more he seems powerless to lift their dull comprehension to the things that pertain to immortality and eternity. Even Peter could not catch a glimpse of any glory or any thing praiseworthy, in being killed by the elders and chief priests and scribes. He even began to rebuke Jesus, and declared that no such thing should happen. He says, "Be it far from thee, Lord; this shall not be done unto thee."

Now come the solemn and sacred words from our Savior, as he replied to Peter. Peter had certainly got a little overbearing, and one might almost imagine patronizing. He could not bear just those few words of praise from the Master. No doubt our Savior was touched by his loyalty, as he had been many times before, for it was out of love and friendship to Jesus that he spoke as he did. He could not bear the thought that the Lord Jesus should ever be put down and trodden under foot by wicked men. For one brief instant the human part of the Son of God may have *looked* upon Peter's proposal to escape this great cross. But almost instantly he recognizes his mission to this world of sin. He turns to Peter and says, "Get thee behind me, Satan; thou art an offense unto me." Poor Peter! Was this his reward for so stoutly declaring that the Master should not suffer in this way? And then Jesus tells him how far he is away from the spirit that should possess every follower of Christ. "Thou savorest not of the things that be of God, but those that be of men." They are all human, and only human, and Peter, perhaps, the most human of them all. Jesus turns to them again all together, and speaks plainer than he ever did before. I can imagine him communing with himself as he looked upon them. Perhaps he felt toward them something as we feel while we gaze upon the baby of the household—"Poor little chick! little do you know of this world's cares and troubles!" As the Master opens his mouth to speak he utters the words of our text—"If any man will come after me, let him deny himself, and take up his cross, and follow me."

Jesus was part divine and part human. We are altogether human, with just a spark, as it were, of the divine in us. We are constantly settling back, as it seems, into the human, and the divine in us must be constantly exhorted, or fanned into a flame, as it were, for we continually settle back and stumble blunderingly, forgetting the divine that is in us, and forgetting and misunderstanding the Savior who would lift us up and bear our trials, and lead us. The disciples were continually forgetting. The task of teaching them to comprehend the true spirit and mission of Jesus seemed almost a hopeless one. At one time they came into a town where the people would not receive them, and the disciples, knowing his miraculous power, and having faith *this* time in his ability, asked him if it would not be the proper thing to call down fire from heaven, and consume them. He rebukes them, and replies, "Ye know not what manner of spirit ye are of. For the Son of man is not come to destroy men's lives, but to save them." Is not our spirit oftentimes much like theirs in our failure to comprehend what it is to take up the cross and follow Jesus? Not only is it among the people of the world who take no thought in regard to Christianity, but we who are trying to be Christians stumble and blunder in the same way. Instead of recognizing that our life-work is to save souls, we continually get the idea that bad people are to be got out of the way where they won't trouble or bother us. We also forget that our appointed work is cross-bearing, and continually revert to the idea that we are to take care of No. 1 and do nothing unless we are to have some good thing for a reward for our labor.

One of our factory boys, who is now in college again, has had a hard time to get his parents and friends to consent or approve of his determination to get an education. I want to give a paragraph from a letter I received from him recently. Before going from here back to school he took a short vacation for a few days at home. Perhaps I might mention that he has become a Christian since he came to work with us; and when he went back to his old home, he of course took up the work of talking for the cause of the Master. People there, as almost everywhere else, while admitting it was well enough to become a Christian, did not seem to think it a matter of any *very* great moment, after all. In regard to this he writes:

> A great many of my friends are dubious, and question about the expediency of my present efforts, "How much will it pay?" not how much good will it enable me to accomplish? but, how much of this world's goods will it enable me to accumulate? Well, I am waiting for a little more advancement before replying to these questions; but if I should say any thing it would only be a reference to MATT. 16: 26.

This places the matter before us pretty plainly. Who has not asked himself the question, "How much will it pay me to get an education?" or, if you choose, "What great good shall I gain by becoming a Christian?" for, as I see it, the two ideas are not very far apart, even though it be true that many who are college graduates are not Christians after all.

What is the most important thing for any of us in this world? Suppose a young man comes to you and asks the question, "How much will it pay me to get an education?" You might say to him, My young friend, you will be greatly benefited in many ways in having a thorough education. A man who possesses an education, other things being equal, will get rich a great deal faster, as a rule. An education often helps a man to get a thousand or two thousand dollars a year, where without it he would not be likely to get more than average day's wages—say from three to five hundred dollars a year. An education will help you not only to stand up among men, but you will likely be a leader among men. You will be greatly superior to the common people whom you meet all around. They will look up to you with reverence and respect. They will say, "He is a college graduate," as you pass by. You may get to be a professor, and be spoken of as "Professor So and So." An education will help you to important offices in the land. You can not become a noted professional man very well without a thorough education. With it you may occupy important public offices, and these public offices usually afford excellent pay, without very much hard work. You can ride in your carriage, and have your fine residence, and indulge your taste as educated men usually do. You may get to be Governor of your native State, and possibly President of the United States, with an excellent education, while the probabilities are usually very small that you can attain a place of any particular account without it. How does all this *sound?*

I believe people seldom consider these things as I have put it above, when they are deciding whether or not they should become Christians; for although Christianity is generally acknowledged to help a man in business, we universally recognize that a man who becomes a Christian with such motives would be a rather small pattern of a man, after all. Well, to come right down to it, what is most to be desired in this world, anyhow—money, fame, and renown? Are these all that we are working for? Our young friend who wrote the above extract evidently seems to have some other object in view. It gave me a thrill of pleasure when he intimated that it was not to accumulate this world's goods that he was going to college, but his thoughts seemed to be, rather, "How much good will it enable me to accomplish?" Jesus once, for an object lesson, went around and washed his disciples' feet himself. They had been talking greedily about great places. He rebuked them by saying, "Whosoever will be great among you, let him be your minister; and whosoever will be chief among you, let him be your servant." There it is, friends. If we have any ambition to have good things said about us on the day of our funeral, would it not be worth while to have it said, "He has been great as a servant of the people"?

In talking with intemperate men I frequently plead the example they are setting. Sometimes I ask them what kind of a man they would like to have their boys make. If there is any good in a man at all, this will almost always bring it out. He wants his children to do well; he wants to have them truthful and honest; he wants to have them free from guilty stains; and although he does not express it in just that way, he in his heart abhors sin in connection with his children.

How would you like to have your children grow up? I asked myself that question a few days ago in the home circle. The little one I have mentioned so often seems to have a wonderful thirst to know about things He is happy with me in rambling over the farm, because I teach him about all the objects to be seen, and explain them to him. Within a few days back he has been almost wild about burning stumps. I showed him how we could set them on fire, and gather the broken roots and bits of wood, and thus clear up the land. Every evening we went down after dark, and he saw the flames light up the darkness, as many a farmer's boy has seen it, and perhaps enjoyed it. When the fire did not burn well I fanned it with my hat; and now the last thing at night, and the first thing in the morning, is about the "burn," and the way in which I swing my hat to make the fire go. He explained it over and over again to his mamma; and during breakfast he slips down out of my lap, and gets my old hat, and proposes that we go and burn the stumps. His whole little life, so full of energy, seems to hang on me. Whatever I do is fun, and he wants to be with me, helping. What shall we do with this little bundle of energy and zeal? Will it rejoice my heart to see him a very rich man, with plenty of this world's goods on every hand? or will it make me happy to see him holding some great public office? or to know that he excels all other young men in athletic sports and games? or, if not, what would I have him attain? What spot on earth, and what occupation, would most thrill my heart with joy to see him occupy?

You have little ones around you, my friends—perhaps little brothers and sisters not yet gone out into the world, but eager and ready, and full of life. What do you want to see them do? My wife asked me the question, and I think I will tell you what reply I made. I would, above all things, see him engaged heart and soul in the work of saving souls. I want him to have an education as good as he can well get, and then I should rejoice to have him use it among the most destitute and helpless of God's creatures—no matter to what portion of the face of old mother Earth God may call him.

"But," said my wife, "would you be willing to take the chances of never seeing him again? Could you bid him good-by for ever, and send him off among those who would not appreciate him, nor love him as we do, to waste his life, as many missionaries have done, without accomplishing very much visible to us, after all?"

"Yes, I think I could. But it seems to me I *should* see him once in a while, after all;" for our facilities for travel are now such that there are but few portions of the world where we can not pay a visit. If God spares me, and gives me strength, I might go and see him, even if I could not stay and help him. I thank God, too, that now our means of travel and communication are such that missionaries are no longer dead to us, as they used to be; and I thank God that he has permitted me to help in the building and fitting-out of that missionary steamship, the Morning Star, I told you about a while ago.

Of course, it is not absolutely necessary that one should go to foreign lands, to give himself entirely to the work of the Master. One may take up the cross, and deny himself here at home, as well as in foreign lands, if he only thinks so, and is able to cut loose from the attractions and hindrances about him. A great field is open in almost every neighborhood in our vast land, in furnishing employment to those who are hungry and eager for something to do. Schools for teaching children work, while they are being taught godliness, are much needed everywhere; and he who works and prays with this object in view, of turning drudgery to pleasant employment, surely does Christ's work. Vast areas of fertile lands are lying unused and uncared for in different portions of our country. Agricultural colleges are doing a great good, but there is abundant need that they be supplemented by smaller home industries. It has been repeatedly demonstrated, that only as mall portion of ground is needed to support not only a person, but a whole family; but the people do not know how to do it. Worse still, as it is usually done they do not enjoy doing it. If Huber should become a successful cultivator of the soil, assisted by education and modern improvements, and should delight in teaching others round about him how to do this, and be happy while doing it, it would be worth as much to me as to see him amid the wilds of central Africa, doing a similar work, but with more ignorant pupils. While he taught them thus, I should especially want him also to teach and prove by practice that whoever strives to do God's will "shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season; his leaf also shall not wither, and whatsoever he doeth shall prosper."

In a recent speech by one who is likely to be our next Vice-president, he spoke with wonderful eloquence in regard to the prosperity of the United States; and while I was much impressed with it I was saddened by the thought that perhaps our very patriotism may be of a selfish kind. Whenever it takes on that phase that would make us strive only for the prosperity of America, while we are content, or more than willing, to see our brothers across the Atlantic working hard for barely enough to keep body and soul together, it seems to me we are in danger of forgetting God, who gave us our land of liberty. We are sending missionaries to China. It costs a good deal of money to send them, and when they get there the odds is so great against them their ability to do Christ's work is necessarily limited. Well, providentially, as it seems to me, the Chinese are coming in considerable numbers to our own land. Where one Chinaman has a thousand Christians all around him, it seems to me the chances of his conversion are much greater than where one missionary is sent among the thousand Chinamen. Of course, the expense of doing the missionary work in the former case would be almost nothing compared with sending missionaries to China. Now, this phase of Christ's work is not by any means confined to the Chinese. Foreigners from almost every part of the world are coming among us. They are attracted by the bustle and stir of America, and by her wonderful progress in the arts and sciences, and in Christianity. Shall we not rejoice to see them come, and thank God that it is so? Shall we not in very truth put the foundation of our republic on a more solid footing by doing so?

But a little time back, and great wars have been waging between nations. Has not the time come for a different line of work to be inaugurated, even as Jesus said to his disciples, "I am not come to destroy men's lives, but to save them"? It is true, we are told our wages will be less if we encourage foreign immigration; and it is said, too, that we shall be the losers, if we trade and traffic too freely back and forth; but, dear friends, if what we lose is going to be their gain, shall we be losers to any very great extent? Jesus said, right after the text we have before us, "For whosoever will save his life shall lose it." Again, "For what is a man profited if he shall gain the whole world, and lose his own soul?"

I know I shall awaken bitter opposition from some by recommending that we break down the walls of exclusion, and let the *whole world* have a fair chance with us, and I would even give them the benefit of what we have achieved in the way of skill and experiment. Who gave us this, our country? who gave us our sons and daughters? who gave us our privileges? and who was it that said, "Give, and it shall be given unto you, good measure, pressed down, shaken together, and running over"?

A great many times people lose greatly by being afraid, or by their narrow-minded selfishness. Many of you will remember the time when the poor people broke into the factories and destroyed valuable machinery, because they thought it was going to throw them out of employment. Did it? To be sure, not. It has seemed to me sometimes really funny to watch a man who is so eager for doing Christ's work in the way of helping everybody, and helping, too, without pay, to think how he is blessed and prospered, and the way in which every thing seems to tumble by accident, as it were, right into his hands. It is not accident, however, for it is the fulfillment of the promise in the first Psalm—"And whatsoever he doeth shall prosper." It has sometimes seemed as though God were looking up people whom it was safe to intrust with great gifts; and when he found such a one who would just turn over the good things to his fellow-men as fast as he received them, and who would distribute them judiciously, where most needed, and where the most good would be done, it has seemed to me as though God delighted in continually pouring out good on such a one, and, in fact, the Bible says he will. Do you not remember? "Prove me now herewith, saith the Lord of hosts, if I will not open you the windows of heaven, and pour you out a blessing that there shall not be room to receive it."

A person can not be a Christian, and have a desire in his heart to overtop others—to get above them and look down upon them. When an individual does this he cripples himself. When neighborhoods or towns get into that way, they have lost sight of the injunction and teachings of the Master; and when nations or continents shall devote themselves to the upbuilding and enriching of themselves, without regard to other nations, they have forgotten the spirit of our Pilgrim Fathers, and they shall sooner or later suffer by it. At our Centennial Exposition in 1876 I was rejoiced at the kindly and Christian spirit manifested to the inhabitants of every clime, and I rejoiced to see the willingness with which our people taught all that they knew how to teach, and by the general exchange of kindly words, kindly offices, and kindly feelings.

I am looking forward to my visit to the New-Orleans Exposition with a thrill of delight, because I expect to see this welcome extended still further. I expect to see the South and North willing to swap and divide—willing to let bygones be bygones, and look only to the glorious future and God. We have no time to quarrel; we have not time to fight for our rights; in fact, the time is fast coming when the people who invade our rights, and take that which does not belong to them, will feel so much ashamed of it that they will, if let alone, carry back the stolen property, of their own accord. You may think I am getting a little visionary here; but if you keep your eyes open a little, and watch for it, you will see symptoms of the good time coming. I have before spoken of the fact, that a few years ago we used to erect stone walls around our premises to keep out pilferers. Not only that, we put sharp spikes and broken glass bottles along the top, and after all of our pains and fuss had our things stolen after all. The iron spikes are all gone now; the stone walls have tumbled down and are carried away, and a great many of our homes have nothing at all around them, and yet our strawberries and grapes and dwarf pears ripen and remain on the vines or trees within a yard or two of passers-by, and yet they are unmolested. Are the street urchins afraid of our jails and prisons? No, they do not want our fruits—not because they have lost their appetite for sweet things, but because they do not belong to them. I once asked an expert pomologist his opinion of a fine-looking apple I handed him. "Taste it," said I.

As he did not make any reply, I interrogated him again.

"Isn't that a beautiful apple?"

"It has just one fault," he replied.

I thought him a little hard to please; but noticing a sly look on his face as he munched the apple, said I, "Well, will you please tell us, Mr. A., what that one fault is?"

This was his answer:

"Why, the apple is not mine."

I told him if that was the trouble, to please take the whole of it, and tell me the name of the fruit. Now, those strawberries and grapes and pears are just as fine as they were fifty years ago; in fact, I think I am correct in saying they are a great deal finer, for we have made great progress in fruit-raising in fifty years. But the boys all have one fault to find with them, and therefore do not want them. The fault is, they are the rightful property of the man owning the house; and this fact, in the boys' hearts, is better protection than a ten-foot stone wall with sharp things on top of it, around the man's dooryard. May God hasten the day when this state of affairs shall be the rule, not only in

Ohio, not only in the United States of America, but over the whole world !

It is true, that men are committing bank robberies; that Christians are turning out hypocrites, and running off with public money, and committing suicide, perhaps, shortly after, because of their remorse; but, dear friends, we are a great many people nowadays. Daily papers are published in such abundance that such occurrences are heralded at once the world over, and I am a little afraid, too, that the spirit of Christ, as it makes its way among men, is not heralded with the same energy that robberies and murders are. Who is there now among the rising generation, or among the older friends, who are ready to enter the list of Christ's followers, and take up the work that is to be done? Who is ready and willing to deny himself and take up his cross? Are we working for profit and gain, and for the sake of getting as much of this world's goods as we can possibly scrape together with the least trouble and expense, or are we willing to lose our lives for Christ's sake, and for the sake of the coming generations, not only in our land, but scattered abroad and growing up over the whole world ?

TOBACCO COLUMN.

TOBACCO AND DYSPEPSIA.

I HAVE been taking GLEANINGS the last three months, and have been much interested indeed, both in the matter of bee-keeping and the tobacco question. I commenced using tobacco when about 14; used it about two years, and quit. I did not use it again till about 21, when I commenced it again; have tried to quit several times since then (I am now 35), but went back again to the filthy habit, although I sometimes held out a good while, until I commenced taking your valuable journal, and read the Tobacco Column a few times when I once more resolved that I would quit. I have been troubled with dyspepsia for the last few years, and this summer have had it in its worst form, and my physician says it all comes from the use of tobacco. Those who have never had the dyspepsia know very little of the meaning of that word; but let them pass through my experience, and they will know what it is to violate one of the laws of nature, or of God (the laws of nature are the laws of God), for these laws plainly forbid mankind to use any of the noxious poisons, and plainly say to man, "Use any of these poisons in large quantities, or for any great length of time, and the penalty you have to pay is death." Now, friend Root, do I deserve a smoker? If so, please send me a good one, and I promise you if I ever commence the use of tobacco again I will pay you for it.

JAMES T. CHESTNUT.

Montgomery, Mich., Sept. 2, 1884.

I guess you deserve a smoker, friend C., even if your doctor has told you that you can not get well unless you give up tobacco. If you get relief from dyspepsia by leaving off tobacco, tell us about it, will you?

I thought I would tell you about my experience with tobacco. I have used it for thirty years. Something over a year ago I gave it up, and have no desire to touch it again. I have a few bees, and my son and I take GLEANINGS together. If you think I am entitled to a smoker, please send me one; and if ever I use the weed again I will pay you for it without fail.

T. H. GOSS.

Hagaman's Mills, Mont. Co., N. Y., Sept. 9, 1884.

I have quit smoking. So please send smoker; and if I begin again I will remit the price.

JOHN W. MARSHALL.

San Bernardino, Cal., Aug. 25, 1884.

A JUVENILE SENDS HER FATHER'S NAME.

I heard that you would send free a smoker to any one that would have their father quit chewing, smoking, and drinking; my father never did drink, but has chewed almost all his life. He promised me he would quit. My father has 6 stands of bees. We had only 2 to begin with in the spring.

LIZZIE A. HADLEY, age 11.

Greenfield, Ia., Sept., 1884.

Thank you, Lizzie. You have begun a good work at a very early age. I wonder if there are not more little girls who can get a similar promise from their papas or brothers.

COULDN'T HAVE A SMOKER WITHOUT PAYING FOR IT.

Please find inclosed 70c in stamps, for which send me a smoker, as I have not got the filthy habit of using tobacco to quit, to claim one free, and never shall have.

MILTON ELLIOTT.

Avondale, O., Aug. 14, 1884.

Well, friend Milton, you do have to pay for your smoker, it is true; but I think you are a gainer for all that, for you saved money enough to have bought a good many, without doubt.

AN HONORABLE RETREAT.

Now 70 cts. is to pay for the smoker which I got of you as a reminder of my tobacco pledge, so you may know that I have gone to using the weed again.

North Robinson, O., Sept. 10, 1884. J. H. EBY.

Friend E., I have a stalwart friend who sometimes says, when they offer him a cigar, "No, thank you; I tell lies and drink whisky, but I never use tobacco." It seems to me you would reverse it, and put it this way: "I use tobacco, but I never tell lies, nor keep money that does not belong to me." I suppose, of course, you don't drink whisky, and the friend of whom I am speaking does not either, but it is a kind of good-natured way he has of reproving those who ask him to smoke. Thank you for the 70 cents. When your smoker gets worn out, may be you will start again; if so, we shall be glad to send you another.

I have been very much interested with the Tobacco Column; have used the weed for the last year, and have decided, by the help of God and GLEANINGS, to never use the filthy weed again. Please send me a smoker. If I ever use tobacco again I will pay you for the smoker.

A. N. ALDEN.

Algodon, Ionia Co., Mich., Sept. 4, 1884.

You can send me a smoker, as I am a user of tobacco, if I am entitled to one, with promise to pay if I use it any more.

P. A. BARNARD.

Cottage Grove, Ind., Oct. 2, 1884.

GLEANINGS IN BEE CULTURE.
Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, OCT. 15, 1884.

For what is a man profited, if he shall gain the whole world?—MATT 16:26.

THOSE HAMMERS.

IN our last issue we gave the price of an entire set of hammers at $5.00. This was wrong, and the type should have been changed. We send the entire assortment for $3.75.

HOW TO BUILD HOUSES.

A BOOK has been presented to us, entitled "Shoppell's Building Plans for Low-Cost Houses." It will be mailed on receipt of 50 cts. by the Co-operative Building-plan Association, 24 Beekman St., New York.

MRS. COTTON'S NEW CIRCULAR.

MRS. COTTON sends us a circular of Italian bees for 1885; price $20.00, book included. At this price it seems to me she should certainly furnish a complete hive with full set of boxes, comb foundation in place, and every thing ready for a crop of honey.

L. L. LANGSTROTH.

WE are pleased to know that our good friend is well enough to be able to write. As we go to press we receive from him the following postal card, referring to a letter found in Kind Words of this issue:

Dear Friend:—Your letter inclosing $1.12 from D. H. Macomber came duly to hand. I have written to him my thanks. L. L. LANGSTROTH.
Oxford, Ohio, Oct. 15, 1884.

THE YOUTH'S COMPANION.

BLUE EYES wanted a paper all her own, and one that would come once a week too. "Well," said I, "what one do you want?" She chose the *Youth's Companion*, and I told her to write a nice little letter to the editor, and ask him how much money he wanted to "swap." He replied he would swap willingly; but as theirs is a weekly, and ours only a semi-monthly, we are to give the *Companion* a little notice, if we chose. Well, dear friends, here is the notice, and I do not know of any weekly paper for children that Blue Eyes could have chosen with more wisdom.

A $75.00 BOOK.

WE have now in one of our vaults a book for which we paid over $75.00, and it has not got any "reading" in it either. It is the index-book for our series of ledgers, and will contain, when filled, from 25,000 to 50,000 names, and keep them so that the book-keeper can find any one in an instant, and be in no danger of getting the same man indexed in two different places. The book is itself quite a wonderful piece of mechanism, and is quite a little load to carry about. The investment was made mainly to keep from making our good friends mad because we got hold of the wrong man, or dunned some man who didn't owe us. You see how hard we are trying to get fixed so there will be small liability of error.

EXTRACTORS THAT THROW HONEY OVER THE TOP OF THE CAN.

SINCE our offer of last month, perhaps a dozen have apprised us of having extractors "guilty" of the above. Now, we have some narrow tin bands made to slip in the top of the extractor. By loosening the screws that hold the castings they go right down into place, and do not in any way injure the appearance of the machine. We furnish these free of cost to any who want them, who have bought our machines. But in ordering it will save us expense if you will arrange so as to have it come with other goods.

SEED OF THE BLUE THISTLE.

MR. R. B. ROBBINS, Bloomdale, O., sends us a very neat packet of the above seed. Directions for planting and cultivation are given on the outside of the packet, as follows:

Plant in rows one foot apart, and 4 inches in row, early in spring. Cover half-inch deep. Transplant early the following spring, 3 feet apart each way. To transplant, run a plow as deep as possible; set the plants in and turn a furrow to cover. These furrows may be turned, then set in another row.

Whoever sends for this seed will please bear in mind what has been said in regard to its being a bad weed to introduce on to their farms. From what experience we have had with it, however, I should consider it no more dangerous than borage, buckwheat, and a good many other similar plants.

TINNED COVERS FOR SIMPLICITY HIVES.

BY importing the tin directly from the old country, we are now enabled to furnish Simplicity covers, covered with a single sheet of tin, for only five cents more than the all-wood covers. Besides this, we are enabled to use a board for the top, of only half the thickness necessary where no tin is used. This reduces the weight of the cover from 6 lbs. to only 4¼ lbs. Our friends will remember that we can not furnish the sheet of tin for 5 cts., however, of the above size, for the reason that we use cheaper lumber, and less of it, where the tin cover is put on. I presume the tin covers will eventually take the place entirely of those made all of wood, because the tin cover is not affected by the sun, and, if kept painted, is good for a lifetime or longer. Price of sheets of tin as above, 9 cts. each sheet, or $8.00 for a box of 112 sheets, as per our price list.

A NEW HAND ON THE HONEY-FARM.

WHILE I write, Huber (sixteen months old) is driving the horse to roll the ground, while the man who has been driving picks up stones, etc. The ground has been underdrained three feet deep, and the drains are only 30 feet apart. It was then subsoiled, and a good crop of clover turned under, then harrowed often with the Acme harrow, and now it is being rolled down smooth, as I told you. I carried Huber out to the lot to see the men work; and as he is always fierce for a ride, I set him in the box with the stones. This suited him a little while, but pretty soon there was no peace until he could have the lines, so now he is happy. This afternoon we are going to sow the piece to wheat, drilling in guano and phosphate along with the wheat. When we get the ground in shape so it will raise a good crop of any thing, no matter whether the season is wet or dry, then we shall be ready to show you honey-plants dripping with honey.

INJURIOUS INSECTS.

We have received another edition of Prof. Cook's "Injurious Insects." This late edition will be particularly interesting to bee-keepers, inasmuch as it contains a long article on bark lice, with the same illustrations as have recently appeared in Gleanings. The pamphlet also discusses the merits of pyrethrum and buhach, with directions for their use. Birds, frogs, and toads are pretty well discussed in regard to their value to the farmer and gardener. Friend Cook seems to take the stand that they ought not to be killed until we have a better case against them. I presume our bird and reptile friends would feel graetful to him if they knew how thoroughly he has been inquiring into the charges made against them. At present writing we are unable to fix a price on the book.

TAKING CARE OF YOUR TOOLS.

The *Ohio Farmer*, a paper, by the way, that it seems to me our Ohio people, any way, can not well afford to be without, gives a hint in the matter of losing tools. Paint all the handles to your tools a bright red, and the eye catches on them much more easily; besides, if any of your neighbors borrow them they will be reminded by a glimpse of the red handles that such tool has not been carried home, as it should have been. Aside from that, red paint as a preservative is worth many times its cost. I think the idea is worth to me the price of the *Farmer* for a year, and I am just going to collect all of our tools, being careful to sort out all that the boys may have borrowed from the neighbors, and have our own painted as above. Neighbor H. can have his painted blue, if he likes, and then when we get through with our underdraining there will be no need of discussing about the ownership of a certain spade or pick.

A NEW HONEY-PLANT.

Yes, and we have got one that yields drops of honey too. It was sent us by C. W. Kirk, of Indian Territory, and it grew to be a great tall plant—so tall, in fact, that the wind blew it over. It lay with its blossoms on the ground; but as nobody ever saw a bee around it, we did not take pains enough with it to straighten it. In the morning, however, in going over to the factory very early I thought I heard bees robbing. When I got near the spot it looked in the dim light of morning as if somebody had spilled a lot of honey on the ground, so thick were the bees rolling and tumbling over each other. When I stooped down and examined, behold it was only this new honey-plant; and on getting up before it was light enough for the bees to fly, I found each little floweret containing a drop of quite sweet nectar. The plant is a species of primrose. Its botanical name is *Gaura biennis*. We are making preparations to put up seeds in five-cent packages. On good soil it grows six or seven feet high.

THE MAPLE-SUGAR MARKET AT THE PRESENT DATE.

We are entirely out of the 11 and 12 cent grades, and have but a small quantity of the 10-cent. Of the 9-cent, *i. e.*, the poorest, we have several hundred pounds. Now, the best we can do for those who want the best quality is to let them have the little patty-pan cakes at 15 cents per pound. These are the very finest maple sugar from the first run. In fact, they are nearly as white as cream, and, when melted and made into molasses, the molasses is nearly as light colored as honey, and is to me about the most beautiful sweet that God has ever given us. These little cakes, at this season of the year, are very dry, and so hard that one friend complains that the children had to pound them up with the hammer before they could bite them. A little warm water poured on them will, however, make them toothsome, even for the baby, in a very little time. We have perhaps 1000 lbs. of these little cakes. They were made expressly to order by farmers in our own neighborhood, and are absolutely pure maple sugar, and more wholesome than any candy the little ones get hold of.

SUBSCRIPTIONS FOR 1885.

In addition to the premiums we offered a year ago, we will also send Gleanings the remainder of 1884 for all names sent in between now and January 1. We have on hand 15 Waterbury watches, first series. These, our friends will remember, were in a case not made all of nickel. We will send one of these watches, regulated and in good order, for three subscribers at $1.00 each. The watches are good timepieces, but the cases are not very good looking. However, if you simply want the time, and do not care what the case looks like, they will answer just as well. For five subscribers and $5.00 in money we will send a watch of series A. This is the style that has an opening through the dial, as you may remember. We have about 50 of these. For seven subscribers and $7.00 we will send a watch of series B. This differs very little from the latest model, which we call series C. We have about 60 watches of series B in stock. All the above are carefully tested, even to trying them by carrying, and will be mailed postpaid as above. If you want to buy them right out, first series will be $2.00; series A $2.50, and B, $3.00. If any of the above are not found in good order when they reach you by mail, we will replace them, paying all postage ourselves.

BIRTHS.

We have for some time had an obituary department in Gleanings, and have also from time to time had marriages where prominent bee-men were the ones to be noticed, and why shouldn't we have notices of births? I do not know any thing better to open the department with than a neat little card from friend Benton, containing the following:

Zoë Benton takes pleasure in
announcing the birth of her brother,
Ralph Benton,
which took place at Munich, Germany,
on the 2 of August, 1884.

On the opposite side of the card we notice, neatly inscribed, as follows:

"Zoë is 'Our Hymettus Queen,' having been born at Athens, Greece, Dec. 2d, 1882.

"Frank and Hattie Benton."

In addition to what we have given above, this below, on the back side of the envelope, is from the happy papa himself:

"The youngster is having a holiday to-day, but tomorrow—no, that's Sunday—well, next day or so after that, I expect to set him extracting honey and mailing queens to America. Benton."

CONVENTION NOTICES.

The Bee-Keepers' Association of Hamilton and Tipton County, Ind., will hold their next meeting in Arcadia, Hamilton Co., on Thursday, Nov. 6, 1884, at 10 A. M. All bee-keepers are cordially invited to attend.
JOHN FRITZ, Sec.

The Mahoning-Valley bee-keepers will hold their fall meeting in Ravenna, O., Nov. 14, 1884. A cordial invitation is extended to all. Bring samples of honey, and your basket of dinner.
E. W. TURNER, Sec.

NORTH AMERICAN BEE-KEEPERS' ASSOCIATION.

The next Annual Session of this Association will be held in the City Hall, in Rochester, N. Y., October 28, 29, and 30, 1884. First session to be held 1 P.M., Tuesday, Oct. 28.

Essays will be read as follows: "Nectar," by Prof. A. J. Cook, of Michigan; "Wintering Bees," by W. F. Clarke, of Canada; "Marketing Honey," by T. G. Newman, of Illinois; "Foul Brood," by D. A. Jones, of Canada.

The remainder of the time will be occupied in discussing other topics of general interest, such as "New Races of Bees and their Crosses," "Best Method of Producing Box Honey," "Best Method of Producing Extracted Honey," "Prevention of Swarming," "Artificial Pasturage," "Best Size of Sections," etc.

At the last meeting of the North-Eastern Bee-Keepers' Association, Messrs. C. R. Isham, F. C. Benedict, and L. S. Newman, were appointed a Committee to secure a hall for these meetings, and make necessary arrangements for hotel accommodations. These gentlemen are fully competent, and those attending the convention may be assured that all details pertaining to their comfort will be attended to.

Reduced rates over the N. Y., West Shore & Buffalo Railroad are promised.

If the bee-keepers of North America take the interest in this meeting that the occasion demands, it will be the most interesting and largely attended meeting of bee-keepers ever held in the world.

It is a matter of national interest, and it need hardly be suggested that every prominent paper in the United States and Canada should give it such notice as this growing industry demands. Will all who are interested use their influence in seeing that the notice is thoroughly circulated?

L. L. LANGSTROTH, Pres. C. C. MILLER, Sec.

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any late number of GLEANINGS previous to May 15. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the, and, that, ing, tion*, etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb.
A. I. ROOT, Medina, Ohio.

Boiler for Sale.

We offer the steam-boiler we have had in use for sale. It has a 48-inch shell, is 12 feet long, containing 48 three-inch flues. The boiler has been in use about six years; but new flues were put in last Christmas, so that it is virtually almost as good as new. It has never been injured in any manner whatever. The only reason why we wish to dispose of it is, that we are putting in a larger one, for the increased demand of our work. We know exactly what a new one like this can be bought for, for we obtained very close figures for putting in another like it, instead of one large one. Such a boiler new, including front grates, etc., will cost at the boiler-shops, $475. We offer this just as it is for $225, and warrant it perfect in every respect.

A. I. ROOT, Medina, Ohio.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

——)**1885**(——

Queens from Europe by Mail

A COMPLETE SUCCESS.

Cyprians, Syrians, Carniolans, Italians, and Palestines: all reared in their native lands. Prices same as in 1884, except Palestines 25 per cent less than Syrians. See GLEANINGS for Jan. 1, 1884, page 19. Ten per cent off on all cash orders mailed before Jan. 1. Safe arrival guaranteed.

18-19-20d **FRANK BENTON,**
Munich, Germany.

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

Greatly Improved!

The Noyes Wire Dictionary-Holder is now made of heavy wire rods. Metal does not touch the book; hence the most delicate binding can not be marred. The Holder locks open when it is opened so that the book can not close without assistance. Ask your bookseller for it, or address L. W. Noyes, the maker of Book-Holders, 99 & 101 W. Monroe St., Chicago, Ill.

PLYMOUTH-ROCK COCKERELS, pure bred, finest selected, only $1, *if taken soon*. Address
A. METZLER, E. Lewistown, Mahoning Co., O.

☞ I know A. Metzler to be a "square man," and his "rocks" are first class, "A. No. 1."
20-21d S. P. YODER, E. Lewistown, O.

1885. IMPORTED QUEENS! 1885.

At prices named in this list, I will have queens mailed by Frank Benton, Munich, Germany, to the address of those ordering with the cash, by Nov. 15th, 1884, and guaranteed safe—by him—to points within 21 days of Munich.

First grade:	April	May	June	July	Aug.	Sept.	Oct.
Cyprians & Syrians, each	12.00	12.00	10.50	9.50	9.00	8.50	8.50
Carniolans & Italians, each	10.00	7.50	7.00	5.75	5.75	5.50	5.50
Palestine or Holy-Lands, each	9.00	9.00	7.90	7.20	7.00	6.50	6.50

Second grade, one dollar less, each.

For delivery in May—Tested Italians, and untested Holy-Land and Italian queens, home-bred, will contract to furnish in May.

ABBOTT L. SWINSON, Apiarist,
20d **Goldsboro, Wayne Co., N. C.**

FOR SALE CHEAP.

HAND-RAISED MALE MOCKING-BIRDS.

If you want a good mocker at a reasonable price, address W. D. BALL,
19-20d Columbia City, Whitley Co., Ind.

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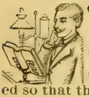

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The Noyes Wire Dictionary-Holder is now made of heavy wire rods. Metal does not touch the book; hence the most delicate binding can not be marred. The Holder locks open when it is opened so that the book can not close without assistance. Ask your bookseller for it, or address L. W. Noyes, the maker of Book-Holders, 99 & 101 W. Monroe St., Chicago, Ill.

IMPROVED SMOKERS with handle, $1.00. Samples of either S. S. Cards, Christmas, Advertising, Birthday, or Visiting Cards, 10c. Write for price list of fret-saw designs, Microscopes, etc.
J. L. HYDE, Pomfret Landing, Windham Co., Ct.

TESTED QUEENS, $2.00. Untested, $1.00. 4-frame nuclei, $3.50 and $4.50. Mississippi wax-extractor, $3.00. OSCAR F. BLEDSOE, Grenada, Miss. 3tfd

300 Colonies of Bees For Sale,

Also 40 acres of land adjoining the city; good house, and plenty of good water. ANTHONY OPP,
21tfdb Helena, Phillips Co., Ark.

Wanted—A Partner.

To start apiary and supply factory in the South, or will take a position on salary in apiary. Competent in every respect, best of reference given. Correspondence solicited. H. E. HARLAN,
21 Mechanicsburg, Champ. Co., Ohio.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2.00 per year.

Those whose names appear below agree to furnish Italian queens for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A.I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 19tf
*Paul L. Viallon, Bayou Goula, La. 19tfd
*S. F. Newman, Norwalk, Huron Co., O. 19tfd
*Wm. Ballantine, Sago, Musk. Co., O. 19tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 21tfd
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3
*S. G. Wood, Birmingham, Jeff. Co., Ala. 19tfd
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5
*S. C. Perry, Portland, Ionia Co., Mich. 19tfd
Will True, Chadwell, Clatsop Co., Oregon. 9-7
Theo. G. M'Gaw, Monmouth, Warren Co., Ill. 11-21
*B. W. Harrington, St. Catherines, Ont., Can. 13-23.
Jas. O. Tracey, New Hamburg, Ont., Can. 19tfd.

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 19tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
C. P. Bish, Petrolia, Butler Co., Pa. 9-23
C. W. Costellow, Waterboro, York Co., Me. 21-19
Kennedy & Leahy, Higginsville, Lafayette Co., Mo. 21tfd

Boiler for Sale.

We offer the steam-boiler we have had in use for sale. It has a 48-inch shell, is 12 feet long, containing 48 three-inch flues. The boiler has been in use about six years; but new flues were put in last Christmas, so that it is virtually almost as good as new. It has never been injured in any manner whatever. The only reason why we wish to dispose of it is, that we have put in a larger one, for the increased demand of our work. We know exactly what a new one like this can be bought for, for we obtained very close figures for putting in another like it, instead of one large one. Such a boiler new, including front grates, etc., will cost at the boiler-shops, $475. We offer this just as it is for $225, and warrant it perfect in every respect.

A. I. ROOT, Medina, Ohio.

QUEENS BY RETURN MAIL. I am now up with my orders, and can send by return mail. Send me your orders, and help me out of the fire. J. T. WILSON,
17tfd Mortonsville, Woodford Co., Ky.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

HONEY COLUMN.

CITY MARKETS.

CINCINNATI.—*Honey.*—No change in the honey market, excepting that the demand is a little slower than ever. There is an abundance of honey in the market, extracted and comb both. Prices are the same as reported last time. No change in the market of beeswax, which brings 26@28c on arrival.

CHAS. F. MUTH,
S. E. Cor. Freeman and Central Avenues,
Oct. 23, 1884. Cincinnati, O.

CLEVELAND.—*Honey.*—Honey is rather quiet, but there are some sales of best white at 15 cts. for 1-lb. sections; higher price is obtained only in rare instances in small sales; 2-lbs. are slow at 16, and second quality seems to be stationary at any price we may ask. Extracted not in demand. *Beeswax*, 28c.

A. C. KENDEL,
Oct. 23, 1884. 115 Ontario St., Cleveland, O.

KANSAS CITY.—*Honey.*—The receipts of honey are very large and fine, with a splendid demand, and we are very low in stock of all kinds of comb; while the tendency of every thing is to lower prices, honey is in active demand with us at steady prices; ½-lb. sections, none in the market; 1-lb. sections, 16c; 2-lbs., 14@15c; 2-lb. sections, California, 14@16c. Extracted, we have a car of very choice California, that we are selling at 7@9 cts. per lb. *Beeswax*, none in the market.

CLEMONS, CLOON & CO.,
Cor. Fourth and Walnut Streets, K. C., Mo.
Oct. 22, 1884.

CHICAGO.—*Honey.*—Choice white comb honey, in 1-lb. sections, brings 16c; dark or mixed comb honey, 12@15c. Extracted is in better demand at 7@8c. *Beeswax* steady at 30c for premium. The stocks of comb honey are not large for the season; two cars of California honey have been sold at 14@16c.

R. A. BURNETT,
Oct. 24, 1884. 161 South Water St., Chicago, Ill.

BOSTON.—*Honey.*—We quote 1-lb. sections, at 18@20c; 2-lbs., 16@18c; extracted, 7@8@10. *Beeswax*, 35c. Pure extracted honey for bee-feeding, at 6c per lb.

BLAKE & RIPLEY,
Oct. 25, 1884. 57 Chatham St., Boston, Mass.

DETROIT.—*Honey.*—The honey market is not very active, although considerable is changing hands quietly at 14@15c. Small packages are preferred.

Detroit, Mich., Oct. 28, 1884. A. B. WEED.

ST. LOUIS.—*Honey.*—Southern extracted honey in barrels is worth from 5½@6c, and dull. Choice Northern would bring more. Honey in cans, retail, 10c; in kegs, dull at 6½@7c. Comb honey, white-clover, 18@20c retail. Spanish needle, 16@17c retail. Dark comb, 13@14c retail. *Beeswax* scarce, and not much arriving. Choice, worth 28@30c.

W. T. ANDERSON & CO.,
Oct. 27, 1884. 104 N. Third St., St. Louis, Mo.

Correspondence desired with bee-keepers and others having honey to sell, whether in the comb, or extracted. Give color, quality, quantity, style, and size of packages, and price on *cash* orders.

Address M. M. BALDRIDGE, St. Charles, Ill.

FOR SALE.—20,000 pounds of white honey, clover and basswood, in barrels holding 360 lbs. each, at 8 cts. on cars here; iron-bound oak barrels, or in 100-lb. kegs at $9.00 each; oak kegs, iron hoops; no charge for kegs or barrels. E. FRANCE & SON.
Platteville, Grant Co., Wis., Oct. 17, 1884.

WANTED.—Any quantity of good buckwheat or fall honey, in barrels or half-barrels. Address, with samples and lowest cash price,

L. T. CHRISTIANCY, 153 Summit St., Toledo, O.

FOR SALE.—500 lbs. extracted clover honey in 10-gallon kegs at 9½c per lb.

M. ISBELL, Norwich, Chenango Co., N. Y.

IMPROVED SMOKERS, With Handle, $1.
J. L. HYDE, Pomfret Landing, Windham Co., Ct.
15-17-19-21-23d

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL.
See advertisement in another column. 3btfd

'85 IMPORTED CARNIOLANS. '85

They are the gentlest bees in the world, very prolific, good honey-gatherers, winter remarkably well, beautiful silver-gray in color. Queens sent by mail, and safe arrival guaranteed, at any office within twenty-one days of Munich.

Price of Queens reared in Carniola.	Spring	June	July Aug.	Fall
I Finest Selected Q'ns, each..	$7 00	$6 00	$5 00	$4 50
II. Fine Prolific " " ..	6 00	5 00	4 50	4 00

DISCOUNTS: On six queens, 5 per cent; ten qns., 10 per cent; twenty qns., 12 per cent; forty qns., 15 per cent. Ten per cent may be deducted from above prices, if cash is sent in before Jan. 1st.

Same Prices for Imported Italians.

Remit by greenbacks in registered letter, draft on Munich bank, or postal order.

21-23 **FRANK BENTON,**
Munich, Germany.

WANTED.—A situation in a Southern apiary, from Dec. 15th to March 15th. Write for terms and references to GEO. E. HILTON,
Fremont, Newaygo Co., Mich.

RECENT ADDITIONS TO THE COUNTER STORE.

FIVE - CENT COUNTER.

Postage.] [Pr. of 10. of 100

8 | PAIL, ONE-QUART........................ | 50 | 4 75

A very nice little dinner-pail, neat, well-fitting cover; holds a full quart, and costs only 5 cts. Did you ever!

6 | PERFUMERY, in a very pretty slipper-shaped bottle........................ | 48 | 4 50

The bottle is worth the money, without the perfumery. If you don't believe it, just let one of the little chicks get a glimpse of it.

TEN - CENT COUNTER.

13 | NOTE PAPER, ¼ - ream packages, for only 10 cents........................ | 98 | 9 50

The paper is rather light, but it writes very nicely, and it costs so little that it is cheaper to scribble on than to pick up old bits of paper. Just think of it — 120 folded sheets of letter paper for only 10 cents!

32 | HATCHET, full size, with good stout hickory handle........................ | 95 | 9 00

Of course, it is not steel, but I tell you it is a "bang-up" hatchet for only a dime, and will do a vast amount of chopping when you do not happen to have any thing better lying around.

10 | QUEEN-BEE SOAP........................ | 85 | 8 00

This is a beautiful article of toilet soap, with "Queen-Bee" printed in the cake, and a picture of what the manufacturers intended for a queen. It will be nice to put in the best room for your bee-keeping friends to use when they come to see you. A cake weighs a full half-pound.

| BROOM.. | 98 | 9 50

Well made, full size; a wonder for a dime.

3 | MITTENS for children.................. | 95 | 9 00

These are good mittens, nicely made, and I do not see how they can possibly be gotten up for a dime; but you shall have them for that as long as they last. At this low price we can not guarantee a fit; but if they do not fit one of the youngsters, try it on the other; and if you don't have children of "assorted sizes" at your house, may be you can find one at the neighbors'. It is only a dime any way, you know.

FIFTEEN - CENT COUNTER.

5 | SPYGLASS, or toy telescope.......... | 1 45 | 14 25

This is a real telescope on a small scale; and as it instructs while it amuses, it ought to be worth many times its cost to any urchin who has a longing for magnifying-glasses, astronomy, and the like.

TWENTY-FIVE CENT COUNTER.

10 | BELLOWS for blowing fire, blowing dirt out of type-cases, etc.......... | 2 25 | 20 00

ONE-DOLLAR COUNTER.

10 | GARDEN AND FARM TOPICS, by Peter Henderson .... | 9 00 | 85 00

Any one interested in modern improvements in farming and gardening will find the above book a treat. The regular price is $1 50; but by buying 100 copies at once I can sell them as above.

TWO-DOLLAR COUNTER.

| CARPET-SWEEPER........................ | 17 50 | 150 00

This is a beautiful new sweeper, all metal, with latest improvements. The dust can be poured from the sweeper into a pail, without unhooking any thing. The handle stands straight up, ready to take hold of, wherever you happen to leave it. I have selected this one from a great number in the market, because my wife has been telling me for some time that nothing in the whole round of household conveniences saves a woman more time and hard labor than a good carpet-sweeper, especially where there are children to scatter bits of paper, crumbs, etc.

A. I. ROOT, Medina, Ohio.

GLEANINGS IN BEE CULTURE.
DEVOTED TO BEES HONEY & HOME INTERESTS.

Vol. XII. NOV. 1, 1884. No. 21

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

NOTES FROM THE BANNER APIARY.

NO. 60.

Or, to be More Exact, Notes from

THE CHICAGO CONVENTION.

As usual the Chicago convention was a lively, interesting time. Live topics were discussed by practical men. The first subject was

THE DIFFERENT VARIETIES OF BEES.

As usual there was a great difference of opinion. Prof. Cook said that they wished at the college to try a cross between the Syrians and Carniolans, which very closely resemble the blacks. Mr. Heddon said, that perhaps there were only two varieties of honey-bees, the yellow and the dark, and he preferred the dark, as they built straighter and whiter combs, and in these days of cheap honey we must produce the *best* or fail.

REVERSIBLE FRAMES.

No one gave any account of his experience, except Mr. Heddon; he had used two or three thousand of them, and thought it paid to reverse them, if for nothing else than to have them filled solid full of comb. There were other points that he had not yet decided upon.

QUEEN-EXCLUDING HONEY-BOARDS.

W. Z. Hutchinson had tried them two years, and was satisfied that just as much honey was secured when they were used. Mr. Heddon did not care for them in the production of comb honey; in raising extracted honey he did not know but they might yet prove desirable.

HOW FAR APART TO ESTABLISH APIARIES.

Nothing definite was brought out upon this subject. Two members thought 75 colonies were as many as could be profitably kept in one locality; three placed it at 100 colonies; five at 125, and three at 150. Ten members thought two miles the limit at which bees could fly, and store honey profitably; fifteen put it at 2½ miles; one at 3½ miles, while one or two placed it at 5 miles. Upon the subject of

PLANTING FOR HONEY,

The decision was almost unanimous that it was not advisable to devote land upon which other crops could be used, to the raising of plants that produced honey alone. The seeds of sweet clover, Rocky-Mountain honey-plant, figwort, catnip, and the like, might be scattered in way places; but if honey-producing plants were to be raised upon good tillable soil, let them be alsike clover, buckwheat, or something of the sort.

INCREASE OF COLONIES.

In localities where there is only one honey harvest, and that harvest one that comes early in the season, increase was considered indispensable, unless there was a sale for it; but in those localities where there are two or three honey harvests in one season, it was thought that more honey would be secured by allowing the bees to swarm once, and then to prevent

AFTER-SWARMING.

A large number had tried the Heddon plan of preventing after-swarming, and had been very successful. This plan is to hive a swarm in a new hive, and place it upon the old stand, setting the old hive by the side of it, with its entrance turned to one side. Each day the old hive is turned slightly toward the new one until it stands close by the side of it, when, at the 7th day, the old hive is carried to a new location.

SEPARATORS.

As last year, three-fourths of those who expressed an opinion upon this subject could dispense with separators. Mr. T. G. Newman said that, judging from the appearance of much honey in the market, many who did not use separators *ought* to use them. Mr. Heddon said, that although three-fourths now voted against separators, the time might come when the vote would be reversed. If a man could raise comb honey without separators, to the satisfaction of himself, the dealer, and the consumer, well and good; if not, then use them.

WINTERING BEES.

There was the usual talk about ventilation, protection, temperature, humidity, etc., until Mr. Heddon got the floor and elucidated the "pollen theory" so clearly that the discussion was soon brought to a close.

MOVING BEES.

Summed up, the discussion upon this topic would read about as follows: The combs should be fastened so that they can not swing. In cool weather, to cover the hive with wire cloth is sufficient. If the bees have unsealed brood they should be occasionally sprinkled with water. In hot weather there should be wire cloth, both above and below the bees, and it is better that there should be a 3-inch space, both above and below the combs, between them and the wire cloth.

EXTRACTED VERSUS COMB HONEY.

The majority believed that, from a given number of colonies, about twice as much extracted honey could be secured as could comb honey.

"FEEDING BACK."

Five members had tried "feeding back" extracted honey to secure the completion of unfinished sections, or to have empty sections filled; but all gave an unfavorable report. One reported that the bees did well at first, and then "loafed," and lived out of the feeders; another, that some colonies did well; others were complete failures; another should leave the experiments in this line to others, and all agreed that "feeding back" was in an experimenting stage, with the prospects not very encouraging.

There were other minor topics discussed, but want of space forbids even their mention.

The following officers were re-elected: President, Dr. C. C. Miller; Vice-President, Mrs. L. Harrison; Secretary, W. Z. Hutchinson; Treasurer, T. G. Newman.

The convention adjourned to meet upon the Wednesday and Thursday of the last week of the Exposition in 1885. W. Z. HUTCHINSON, Sec.

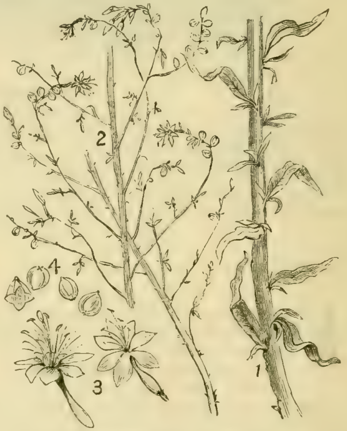
Rogersville, Mich., Oct., 1884.

Friend H., you have given us a model report. If some one could sum up in this brief way the substance of our conventions, there would be no difficulty in publishing all of them, and the conclusions arrived at would be of very great importance indeed, especially points like how many colonies should be kept in one locality, and how far apart we should locate said apiaries. Trial experiments of this kind are quite expensive, and even incomplete data are oftentimes worth many dollars to a man starting out. The same way in regard to planting for honey, and feeding back. It is a little singular, that bees can not be fed honey so as to have them store it in sections, and work right along as they do when they gather it in the fields. Perhaps if we could have them take it in the open air by some plan, and carry it half a mile or so, it would answer; but then, how about the neighbors' bees? We should have to have a locality with no bees within at least three miles. To do this, perhaps an island would be the only safe place.

ANOTHER PLANT THAT BEARS HONEY IN DROPS.

A COMPANION TO THE SPIDER AND SIMPSON HONEY-PLANT.

IN an editorial last month I mentioned the plant which we figure below. The cuts will make it easy to identify, I think, without much description. I do not know any common name for the plant. If any one recognizes it, we hope he will tell us what it is called; for botanical names are hard to pronounce and hard to remember.



A NEW HONEY-PLANT—GAURA BIENNIS.

Fig. 1 shows the stalk and leaves. The stalk will grow six or seven feet high on good soil; and where single plants are standing alone they will have to be staked to prevent being blown over.

Fig. 2 shows a detached portion of the branches, the manner the blossoms appear, seed-pods, and buds. The specimen I furnished the engraver was taken after the plant had almost ceased to bloom, so it does not show the masses with which it is laden early in the season.

Fig. 3 is the crowning beauty of the plant —the white and pink blossom. One of the blossoms is shown with a honey-drop, but the engraver has not made the drop nearly large enough. It really covers the whole flower, and makes the plant bend beneath its load.

Fig. 4 shows the seeds, with one of them cut open.

The plant in many respects has a striking resemblance to the spider plant, although the blossoms are very much smaller. It seems to me as though they must have relationship some way, but the botanies do not give us any clew to it. They only tell us that they belong to the *Onagraceæ*, or evening-primrose family, while the spider plant belongs to the *Capparidaceæ*. Both of them are a dark rich pink when the blossoms first open in the evening, but fade during the next day. Both of them secrete the honey during the night, and with us the bees lick up every drop of it before it is fairly daylight, when the nights are warm enough. Cool nights it secretes little or none. At present we have the seed from only this one plant, but will try to hunt up enough so we can furnish five-cent packages by another season. The plant has been sent to us by two different individuals—the one mentioned in an editorial in our last issue, and the other by J. B. Smith, Lincoln, Ill.

We had only two plants this season, and both are in our flower-garden in a made soil perhaps two feet in depth, which may account for their great vigor. The flowers cover the plant in such masses of bloom, that, together with the honey, they break down if not supported. In fact, I am ashamed to say that both of ours bore their crop of honey lying flat on the ground; but you see I did not get up early enough, and so I came pretty near remaining in blissful ignorance of the "mine of wealth" Nature had in store for us. In a locality where few if any bees are kept, perhaps the honey would remain on the plant during daylight; or, more likely, it would, under the heat of the sun, evaporate so as to leave thick honey or sugar.

There is another of the evening-primrose family, resembling this plant in some respects, belonging to the *Œnothera*, species *Albicaulis*. As the flower looks almost exactly like our plant above, I should not wonder if it yielded honey in the same way. Who can tell us?

REVERSIBLE FRAMES.

SOME COMMENTS FROM FRIEND BUCHANAN.

IN the Oct. No. of GLEANINGS, Mr. A. H. Dutton, of Brussels, Ont., writes an article on reversible frames, in which I was somewhat interested. He is the gentleman, if I am not mistaken, who described his style of frame some time since in the *A. B. J.* Not altogether liking his manner of arranging the frame projections, I have endeavored to improve on the plan.

As I understand Mr. D. he cuts off the projecting arms of the frames, and, finding the center of end-bars of frame, drives two stout wire nails into each end-bar, letting them project enough to rest on a metal rabbet arranged in the center of the end-boards of hive.

To give a permanent foot-hold for these nails it is necessary to have end-bars of double thickness; and in case of putting this attachment on to frames already in use, and filled with combs, it is required that a strip of comb be cut away from the end of frame, and an extra strip of wood put in place, and nailed to the ends. Where it is desirable to create reversible frames of those already in use it is important to have the attachments for supporting the frames so constructed that they may be quickly and permanently adjusted; and when adjusted, to give no further trouble.

Herewith I send you a simple metal frame-support that can be quite rapidly attached to any frame; and being ⅞ in. wide, the same width of frame, is put on accurately with no trouble; and if the metal rabbets are adjusted true, the frames must hang true in the hive. With this plan for reversing the frames there is nothing to do, save turning the frames over in returning to the hive.

I have never seen this arrangement described; and if you think it has any merits you might illustrate a frame with the "machine" attached.

While the subject of reversible frames is in order I wish to give my opinion in regard to the four points of superiority claimed by Mr. Dutton. 1st point. "More brood can be obtained in less compass." Mr. D. offers an opinion on this point; viz., If you possess the ordinary frame, and practice the plan of spreading the brood, little advantage would be gained by reversing the combs, so far as I can see.

Concerning this matter of reversing combs and spreading the brood with a view of securing more brood, I have to say I have no faith whatever. Having given this plan fair and impartial trials I have settled down to a firm conviction, that, where bees have plenty of stores to insure them to push along, there will be as rapid building up of colonies severely let alone as can be had by the "scientific" (?) process of up-ending the combs and spreading brood. We all know well enough that there are old-fogy bee-keepers in every neighborhood who never open their hives from one year's end to another, and, "all the same," they "get there" just as early in the season with their swarms as any of us "smarties." We understand this well enough. This gets away with the first point.

2. "Bees can be driven to work in sections." Not unless they are getting honey from the field will they store in the surplus department "at the pleasure of the apiarist," and, "don't forget it." Any good strain of bees will do this without reversing their combs when there is a fair yield of honey.

3. "Almost the last drop of honey can be sent above." This point is well taken, from the fact that, when the colony is well at work in the surplus boxes, and honey is coming in from the field, by reversing the brood-combs and placing the honey in the brood-frames in an unnatural position, it will almost invariably be removed to the sections above, where it is put in shape to bring the apiarist twice or three times the money it will cost to supply the colony with granulated-sugar syrup, which is conceded to be the safer for wintering.

4. "Solid combs are secured." This is a weighty point, and for this alone it would be desirable to have a reversible frame. J. A. BUCHANAN.

Holliday's Cove, W. Va., Oct. 17, 1884.

I will explain to the friends, that the device alluded to in the above is simply a piece of heavy tin, 2 inches by ⅞, with a projection of ¼ in the center of the piece, which projection is made by kinking the strip, as it were, so as to throw out a fold. Holes are punched in the piece of tin, to tack it to the frame; said tacks are to be clinched. If this support at the center of end-bars of the frame should be found desirable, they can be very cheaply made of malleable castings, with points for attachments cast on the metal; or, better still, the points might reach around the wood of the frame so that curling them over would stick them so they never move. A light hammer would do the business very quickly—or for frames already filled with combs, perhaps a pair of light pliers would be handier. I would advise all to go slow on this, however, and I am afraid few will like the arrangement. Two points mentioned—getting our fine honey all into the sections, and getting solid and entire combs, are certainly valuable considerations.

BENTON'S WONDERFUL SUCCESS IN MAILING QUEENS ALL OVER THE WORLD.

THE "GOOD" CANDY STILL GOOD AND ALWAYS "GOOD."

EDITOR GLEANINGS:—In your last issue, page 660, in your comment on Frank Benton's article concerning mailing queens across the ocean, and the kind of candy used, you say to friend B., "It is quite a curiosity to know just how you make the candy that works such wonders, if that has any thing to do with it. If you prefer to sell the recipe instead of making the candy, and I am not sure but this is the best way, tell us what it is worth and we will pay you well for it."

Friend R., I can assure you that Mr. Benton's candy is nothing new under the sun. To prove it, let me quote from a letter received from Mr. Benton, dated Aug. 3, 1884; in filling an order for me he says:

"There would be $2.00 to your credit, which I might return, but I thought you would not object to my putting in an imported Palestine queen, and calling the account square. The balance on this queen, $6.00, may serve as a slight testimonial of the benefit I have derived from the use of the Good candy in mailing queens this year. I have not, however, made the candy just as you made it first, but have employed pounded sugar in mixing it. I have even taken sugar as fine as wheat flour; but for all that, you need not count me among the number who propose to call this shipping food the Scholtz candy, or the sugar-and-honey candy. At our house it goes by the name of the *Good* candy. The Benton candy, on which I did succeed in getting many queens across the ocean alive last year, has now gone where the woodbine twineth, or, as the Germans say, has wandered off into the lumber-room or garret.

"Perhaps you will be interested in knowing what success I have met with in mailing queens this season. I have mailed from Munich to various European countries, even as far from here as Sweden, Scotland, and Ireland, queens of all races supplied by me, and without the loss *of a single one*. Moreover, *all* have arrived in *first-class* order. My success in sending queens by mail is due to three things—the food employed, the style of cage used, and the workers selected for the journey. If time will permit, I mean to send an account to GLEANINGS of the way it was done. It is not often I find time to write as long a letter as this" [the letter contains 22 closely written pages]; "but as quite an item in my attaining what may be termed *complete* success in mailing queens across the ocean has been the use of your candy, I thought it would be of interest to you to know about it."

In closing his letter he says, "Let me know the exact date of arrival, and the amount of food left over, if any, as well as any other items which you may think might be useful to me in making such shipments. I shall send out, if I go to the Orient this winter, a few very choice queens packed in this way (only with more food) very early, to go via Trieste and Bremen to America, without their being opened on the way. The boxes will be sealed in Cyprus and Syria, and not touched until the purchaser opens them. The journey to New York will take a full month, and may take 35 to 37 days. Sometimes letters reached us from America to Cyprus in 18 days. Would you like an Eastern queen by mail, registered in a Benton cage on Good candy, direct from Syria? I believe I can do it, and then let us toss up our old hats—eh?"

By the above you will see that his candy that he has had such complete success with is, after all, nothing but the Good candy that is nothing new under the sun.

Yes, friend Root, you may call the candy the Scholtz or the sugar-and-honey candy; that will not change the fact of I. R. Good being the first discoverer and introducer of the candy's good qualities in shipping bees and queens. I. R. GOOD.

Nappanee, Ind., Oct. 13, 1884.

Steady there, old friend. I did not mean to rob you of your discovery at all, in what I have said; I only meant to call attention to the fact that oftentimes our most valuable discoveries come so near something we have had already, and right before our eyes, that it is a little astonishing that nobody ever thought of it. While it is true, that honey and sugar were described in Langstroth's book all these years, nobody ever thought of using it to fill queen-cages until you struck upon it, and I have always supposed that you were entirely oblivious of the fact that it was described in Langstroth's book, as I am sure we all were. It seems to me, however, that the candy as you gave it to us was hardly what we require, for friend Doolittle and some others declare the sugar had no other value than to hold the honey, and that so much sand would do just as well, etc.; and we were so much annoyed by the grains of sugar rattling out of the cages in our mailing business that I began using the finest pulverized confectioner's sugar, as you may remember. Well, when I said what I did about friend Benton's candy, I had just noticed that it was different in looks and taste from ours, for it was soft and creamy, or like butter, perhaps, so that nothing like sugar was visible in it. Your kind letter as above has given us the key, for friend Benton says he *pounded the sugar up*. Now, then, what we need is a mill similar to a paint-mill, to grind the sugar and honey after being mixed, until it is a simple paste, like white paint, only thicker, of course. This paint can not daub bees, and yet they can eat every particle of it. I would suggest, that the honey should be nice, thick, well-ripened honey of the finest quality. Several have been using candied honey alone; but honey will not sustain life like chemically pure sugar; neither will it avoid daubing, for it is liable to melt in time when it is subjected to a warm temperature. Sugar and honey ground up together will be little affected by changes of temperature. At the present low prices of sugar, this mixture could be furnished very cheaply with the proper kind of a mill; and who knows but that it may find a market as a substitute for butter; *i. e.*, to spread on your bread? Of course, the name of the manufacturer would need to be on every can.

MOVING BEES TEMPORARILY TO A BETTER LOCALITY.

FRIEND ANDREWS' EXPERIENCE IN THE MATTER.

FRIEND ROOT:—As we do not have white clover enough to give any surplus honey, I took a carload of bees, 124 colonies, 44 miles north into a clover locality. The yield of honey was small, only about one pound per day to the hive during the clover-bloom of about one month. The hives moved were my strongest, selected from 235 colonies. I ran them to extracted honey exclusively. While returning them, about the middle of July, two of the colonies smothered, part of the combs melting down in those hives, notwithstanding they occupied two sets of comb, had wire cloth over the whole top of hive, and about half of the bottom, and were carried in an open stock car. They were in the car only about 12 hours. Thus it will be seen that strong colonies of bees, during transportation, develop a great amount of heat, and require a large amount of air.

I give it as my opinion, that the transportation of bees by rail to better pastures in hot weather is not likely to become a popular branch of our business.

Farina, Ill. T. P. ANDREW.

Many thanks, friend A., for your report; but it seems to me that one pound per colony is a pretty small result. However, 124 strong colonies in one locality is a pretty good number; and if they averaged one pound each for 30 days it was not so very bad, although during a good yield in the height of clover-bloom, 5 lbs. per colony would not have been extraordinary. I think, had you had wire cloth over the whole bottom of the hive, as well as the top, you would have had no trouble with the combs melting down.—I know by experience that it is a big bother to move colonies, and I should want pretty good pay for it if I went to the trouble. After having moved bees a few miles and back again, I have sometimes declared that I wanted every colony to have a permanent abiding-place; and unless some very great inducement should be offered, they should always stay there.

WINTERING BEES WITHOUT PROTECTION.

BY ONE WHO HAS SUCCEEDED TOLERABLY WELL.

AS winter is rapidly approaching, many of your readers no doubt are asking themselves, "How shall I prepare my bees for winter?" especially those living along the northern lakes, or wherever exposed to the blasts of a rigorous winter. This question has been discussed pro and con, and still there seems quite a diversity of opinion as to the best and cheapest plan. It would relieve many a bee-keeper's mind if he only knew he could winter his bees with very little expense.

I have been familiar with the nature, habits, and wants of the bee, by experience in handling them for over 45 years, and very successful in wintering them, and getting much honey. And right here I frankly acknowledge I am now getting much valuable information from A B C and GLEANINGS in regard to modern or scientific bee-keeping. I really hope the pages of GLEANINGS will continue to be honored with many articles like those from the pen of A. J. Cook, Frank Benton, G. M. Doolittle, Mrs. L. Harrison, W. Z. Hutchinson, Root, White, and many others. But, see here. I think this has nothing to do with wintering bees. Well, I was going to tell you how I do it every winter, and we have very cold weather here.

To find where I am located, put your finger on the map, about 82° west longitude, and 41° north latitude. Now look at the northern lakes—Ontario, Erie, Huron, Michigan, and Lake Superior; then imagine the cold winds of these ice-bound lakes in mid-winter sweeping down on you. This is where I have been wintering bees many years, where the mercury frequently fell 15 to 20 degrees below zero.

This is the way I did it. I make no cellars, dig no pits, build no houses, nor bury the bees in hay, straw, and leaves, to call rats and mice, neither do I build board fences to keep the wind away.

I always winter on summer stands, and would ask no better way for myself. I find it not necessary to put any thing between them and the congealing influence of Jack Frost, so far as my experience goes, except a good hive made of inch lumber, well painted, and good cushions on top of the frames. Give them plenty of combs and honey; keep them dry, and they will make their own fires. I ventilate my hives in such a way as to carry off the vapor generated by animal heat before it has time to condense. If the vapor is permitted to remain in the hive till condensation takes place, then the bees are eminently in danger.

Last winter I carried a small colony (as an experiment) through winter, safe, on not to exceed 15 lbs. of honey, in a hive only ⅜ of an inch thick; this hive stood in the bleak wind all winter. I presume more bees die from dampness in cold weather than from all other causes put together. Last winter, when the snow was 8 or 10 inches deep, and mercury 20° below zero, I visited all my bees, and they instantly responded to my call, assuring me all was well.

Last spring they all came out clean and dry. I put 1000 boxes (got of you) on 15 of my colonies, expressly for white-clover and locust honey; in a few weeks nearly all were filled with as beautiful honey as I ever saw. This honey is all sold at 22 cents per pound. Forty colonies made over 2200 lbs.

The basswood did nothing this season; the drought was unfavorable to honey-gathering.

Now, my friends, I do not wish to mislead any one in this matter, but simply give you my experience; then if you wish to try it, take only a few colonies till you are satisfied, lest, through some cause, you should fail, and reflect on me.

JOHN W. NIMAN.

Spring Mill, Richland Co., O., Oct. 23, 1884.

Friend N., I think the secret of your success is that your bees have always had a good article of nice well-ripened honey to eat. When such is the case it does not seem to matter so very much how they are wintered. In regard to cellars and pits to winter in, I at least pretty nearly agree with you; but if you will read the facts given through GLEANINGS in years past, I think you can not avoid coming to the conclusion that bees often winter, protected by double walls packed with chaff, or some equivalent, where they would not in hives built of inch boards only; that is, chaff hives winter safely where the rest of the apiary in hives of other kinds are lost. In regard to advising to omit board fences or other wind-breaks, you are certainly hasty. Wind-breaks have been proven over and over again to be of very great advantage in not only saving the lives of stock of all kinds, but saving the amount of food consumed. I would have a wind-break built about my apiary, simply to save the bees from being annoyed by high winds, as they frequently are even during *warm* weather; and during the cool weather in spring and fall, who can look on and see their frantic attempts to reach their hives, and not be stirred by an impulse to give them relief?

PROCEEDINGS OF WESTERN BEE-KEEPERS' ASSOCIATION.

Held at Independence, Mo., Sept. 17, 18, and 19, 1884.

EXTRACTS FROM REPORT OF ABOVE.

"IS it profitable to extract honey for the purpose of finishing up partly filled sections?" was taken up for discussion. Mr. A. A. Baldwin regarded the plan as profitable from his own experience, and had fed extracted honey with favorable results. Mr. Conser reported his experience as having met with contrary results, and would not advise the feeding of extracted honey. Mr. W. B. Thorne gave his experience as being that his bees had a tendency to swarm as soon as he began to feed them.

The next question discussed was: "Is it profitable to raise queens after the honey season fails?" Mr. E. M. Hayhurst regarded it profitable, as did also Mr. Jas. A. Nelson. Mr. A. A. Baldwin expressed the opinion that queens raised at such a time were not as good as otherwise they would be.

Upon the proposition, "Is it advisable to manage an apiary so as to get a large part of the honey gathered as surplus, and feed sugar syrup in winter?" Mr. Armstrong expressed himself as favoring the plan. He had done so, using "A" sugar with good results. Mr. P. B. Thaxton stated, that, from his limited experience, he had formed the opinion that bees always winter best on honey. Mr. Jas. A. Jones was of the opinion that either honey or sugar could be used for wintering, and he would take all the honey possible, as it could be sold at a price exeeding the cost of sugar. Mr. W. B. Thorne stated, rather to the amusement of the association, that he would feed on sweet cider this fall, and report the result at next meeting. Mr. A. A. Baldwin stated that his plan was to manage so that his bees would store all their honey in sections, and then feed white sugar for wintering; that at the present price of extracted honey the feeding of sugar was advisable.

"What is the best time to Italianize an apiary?" was taken up in the regular order, and, as had the other questions, it met with general discussion. Mr. E. M. Hayhurst expressed the opinion, that, if an apiarist buys his queens, the fall is the best time; but in case an apiarist rears his own queens, the best time is when the honey-flow ceases. Mr. F. G. Hopkins expressed the opinion that the best time was when it best suited the apiarist. Mr. Phidel Baldwin regarded the best time to be during the flow of honey, at which time the bees were less inclined to rob. Mr. E. Armstrong regarded the best time for the apiarist, as well as the bees, as being as early in the season as possible. Mr. L. W. Baldwin considered the best time during the flow of honey, and regards queens raised at other times as inferior to those reared during a flow of honey. Mr. J. D. Meador regards the time as the best during the swarming season.

"Is the extra prolificness of the queen a disadvantage to herself and colony?"

Mr. A. A. Baldwin said: "I had rather have a queen that would just keep up the colony."

Mr. E. Armstrong, in his remarks upon the subject, said that the present year had been an exceptional season for bees to breed, and asked for information as to how such could be prevented.

Mr. J. D. Meador, in reply to the inquiry, said he thought it was due to the extra amount of pollen. The most of the association concurred in the opinion that it had been an unusual season for breeding, and further that bees had bred later than usual. A vote being taken to decide whether in the opinion of the association it was the queen or bees that caused an excessive production of brood, it was decided that it was due to the bees.

Mr. L. W. Baldwin introduced a fact in his own experience which the association failed to understand. It was, that while his bees were at work on the Spanish needle they would return to the apiary and fly around as if lost, and alight on the brush and die. His colonies were very much weakened by death in this way.

The next question discussed was: "What is the best practical method of controlling swarming?"

Mr. P. Baldwin said upon the subject, that he had been trying to control swarming for many years, and in his experience what would work successfully one year would fail the next. He had tried caging the queens, and they would swarm next day notwithstanding the caged queen, and so on for several days.

Mr. L. W. Baldwin expressed the opinion that it was best not to attempt to control swarming, but to know what to do with swarms. His method during the past season was, as soon as a swarm issued, to take the old queen, and in three days destroy all the cells but one, and give a ripe queen-cell. The method had worked to his satisfaction. Mr. C. M. Crandall had successfully operated the same plan.

"Are vicious bees better honey-gatherers than gentle bees?" The discussion became general, and the general opinion expressed was that they were not.

We give the following table to show what bee-keepers do on an average. May be the result will be a little one-sided, however, for unsuccessful bee-keepers do not, as a rule, attend conventions. May be the reason why they do not succeed better is because they do not attend. Do you see the point? I think the table makes a pretty fair showing for a season so universally decided to be a poor one.

AVERAGE RESULTS OBTAINED BY 25 BEE-KEEPERS.

NAMES.	Colonies in spring	Colonies in fall	Pounds comb honey	Pounds extracted	Pounds wax	Size of frames
E. Armstrong, Jerseyville, Ill....	40	90	1000	1000	50	9⅞x12
W. B. Thorn, Glenn, Kas	17	21	150	1165	65	11x13
J. F. Baird, Blue Springs, Mo.....	70	120	1000	40		10x12¼
J. D. Gehring, Parkville, Mo.....		7				
F. G. Hopkins, St. Joseph, Mo....	9	19	450			9⅛x13
P. B. Thaxton, Independence, Mo.	17	39	200	700		10x13
J. Conser, Glenn, Kas............	46	59	533	884	22	9⅞x17⅜
F. O. Shepherd, Anon Rock, Mo..	120	190	300	4000	150	9⅛x17⅜
J. George, Independence, Mo ...	52	81	1500		10	10x13
A. A. Baldwin, Independence, Mo.	78	118	3200	100		10x11½
F. J. Farr, Buckner, Mo...........	120	160	1800	400		10x13
U. Adams, Missouri City, Mo.....	4	13	300			10x13
E. M. Hayhurst, Kansas City, Mo.*						9⅛x17⅜
L. W. Baldwin, Independence, Mo	140	185	5650	1000		10x13
J. Long, Independence, Mo.......	8	22	175	300	10	9⅛x17⅜
J. A. Nelson, Wyandott, Kas.....	57	60	300	1200	10	9⅛x17⅜
P. Baldwin, Independence, Mo...	118	160	4300	900	40	10x13
J. H. Jones, Buckner, Mo.........	102	160	6000	500	100	10x13
J. W. Wiley, Lawrence, Kas......	32	52	300		10	11x12
C. M. Crandall, Independence, Mo	73	109	2730	100		10x13
C. Ormsby, Independence, Mo...	15	26	590	20		10x13
M. Rowe, Grain Valley, Mo.......	36	80		2640	100	10x14
H. D. Sibley, Independence, Mo..	6	12				9⅛x17⅜
E. Ellis, Independence, Mo.......	12	20	350			10x13
J. H. Fink, Independence, Mo....	22	36	650			13x13

*E. M. Hayhurst, queen-breeder, has sold this season 1500 queens, 200 1-lb. packages of bees, and 30 full colonies.

EXHIBITING GOODS AT FAIRS, ETC.

APIARIAN INTERESTS, AND THE WAY IN WHICH THEY ARE ENCOURAGED AND REPRESENTED AT COUNTY AND STATE FAIRS.

OF all the goods received from you, I sold at the fair but 6 of those little cans; the other few items enumerated as not returned I kept for my own use. No A B C sold, no subscriptions for GLEANINGS received; of honey I sold 1½ lbs. If you ask how such results came about, I must tell you the whole story. Four weeks before the fair, I applied for space indoors, stating my object. The officers promised me all the space I wanted in "Agricultural Hall." I should call some day in the week before the fair; they would assign me my space. When I did so I was put off from one day to another until Saturday afternoon, when they told me they had no place to spare indoors, but I would have to put up a stand of my own, if I wanted to exhibit. Since I had received goods for that purpose from you as well as Mr. Newman, I concluded to go to the expense of putting up a stand. The place for it was assigned me at the side of "Vegetable Hall." It did not seem to be a very good place, but I could get none better, as the best places were occupied by beer-stands, cigar-stands, games of chance, and other side shows. When the fair began I found that my stand was surrounded by horses and wagons, so it was very inconvenient for persons, if not impossible, to get through to where I was. Hiring team to get the lumber, and to buy the latter, together with carpenter's pay, has taken what ready cash I had with which I meant to pay for the honey you sent. I succeeded in distributing specimen copies.

Youngstown, Ohio, Oct. 4, 1884. A. R. KOHNKE.

Friend K., your experience is a little disheartening, it is true; but now do not, I pray you, be too severe in your censure, even though it does seem as though you had been used very badly indeed. The officers of the fair were probably very busy and hurried, and may be did not want the office any way, but somebody had to take it. What you want to do is to be on hand at the preliminary meeting for the fair next year. These meetings are generally held some time in the fall or winter. Make yourself acquainted with the machinery of fairs, and take with you such a hearty good will that they will be glad of your assistance. Do not be discouraged if they don't take to you kindly right away. Keep right on year after year. Be on hand every time, and pretty soon they will be glad to have you take office, and see that the bee-keepers of your county have fair play. There is a great tendency for games of chance and different sorts of gambling to get into our fairs; and the way to keep them out is for good men who detest such things to take hold and stop it just the way I have directed above. Lager beer is still sold on a good many of the grounds of our county and State fairs; but very likely one good temperance man at the right place, at the right time, might banish it for ever. Temperance-loving and law-abiding citizens have no business to stay away and let careless, unscrupulous, or lazy people have these matters in hand. You might urge, that to do all I indicate would take valuable time, and you can not afford it. Then, my friend, you have no reason to find fault, or complain. Which is of the most importance, your business and your work, or the welfare of the rising generation? And, furthermore, one gets along with his work faster where he lends a hand in public matters, such as fairs, and other things of a like nature. Our fairs should be attractive and interesting: our boys can be taught to love the peaceful pursuits of agriculture more than gambling, cigars, and lager beer, if we go about it in the right way. We ought to be ashamed of the existing state of things at our fairs, many of them; and we ought, every one of us, to be on our guard. I need this little sermon myself; and if I am not present at our coming preliminary meeting, you can tell me that I do not practice what I preach.

HONEY REPORT FROM THE WESTFIELD APIARY.

SIDE STORING AND TOP STORING BOTH, AND TOP STORING ONLY.

I BEGAN the season with 9 colonies; increased to 20 by natural swarming, and got 1400 lbs. comb honey in 1-lb. sections; 1100 lbs. white-clover honey, and 300 lbs. buckwheat honey. I have sold part of it for 12½ cts. per lb.

I have 11 of Mrs. Lizzie E. Cotton's Controllable hives; the rest are the 10-frame L. Simplicities, with cases for tiering up. The Controllable hives are of my own manufacture, made from directions given in her book, which cost me $1.00. She advises using boxes to hold about 4 lbs. of honey, but I didn't use them. I used 1-lb. sections held in crates on the sides and top. The hive is a good one for testing side and top storing. I think that a little more honey can be obtained by the side-storing method, but I object to it. One objection is, the bees do not fasten the comb to the sections so well in the side boxes as they do in the top ones, thus leaving them liable to damage in shipment; another one is, you are more liable to have brood in the sections. I used drone-starters, and in some, sections. Well, I think I had about a dozen that were filled full of drones. Those sections were on hives where the brood-combs were built from foundation, and no drone-comb in the hive.

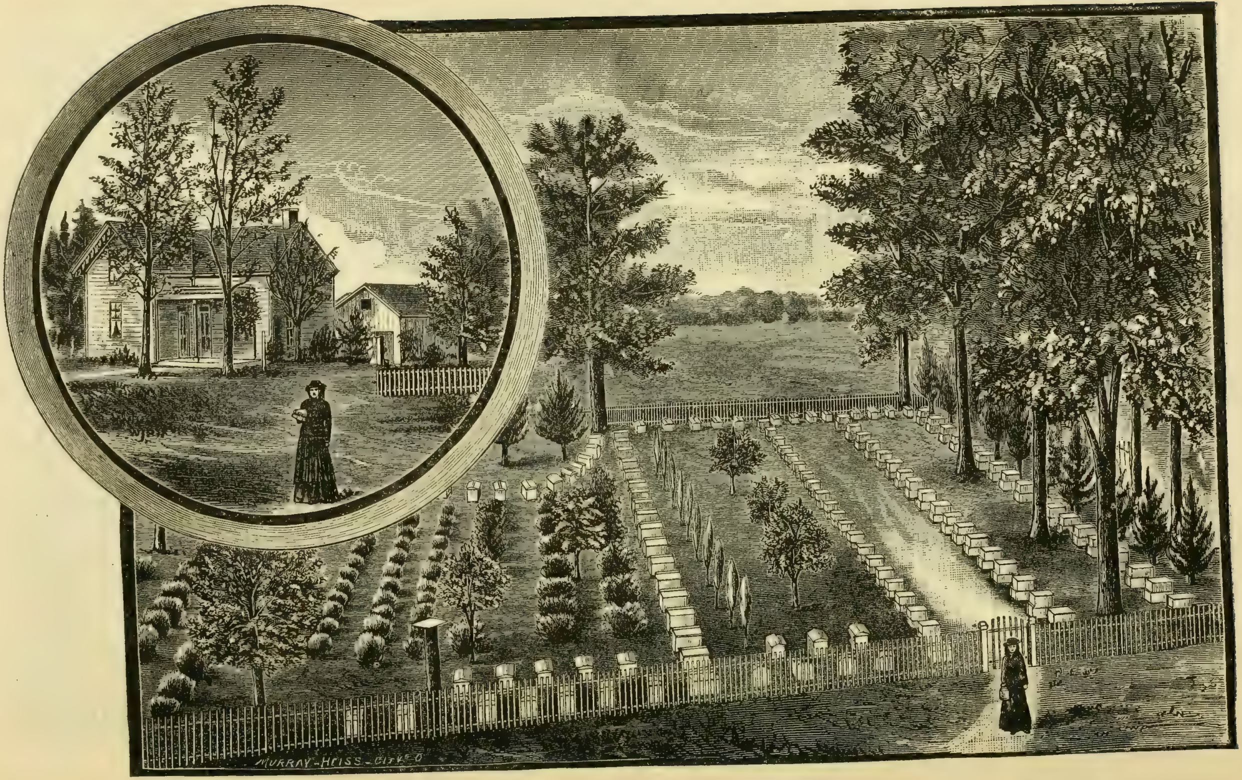
Now, if it is not out of place I should like to ask some questions. 1. Which are the most called for in the market—the 12, 24, or 48 lb. shipping-crates?

2. Would it not be a good plan to have those to whom honey is sold, return shipping-cases when empty?

3. Do you make the Hill device to cover 8 or 10 frames for winter? FRANK CARSON.

Loganville, Wis., Oct. 17, 1884.

I have just asked one of the clerks, friend C., and she says we sell more of the 48-lb. cases. There is usually more or less trouble in getting cases back. On this account there has been a good deal of a call for something that need not be returned. We can, it is true, make such cases, but few bee-keepers want to go to the expense of having them painted and glassed, especially where honey is sold at the recent low rates.—The Hill device will work equally well on 8 or 10 frames; and even on 6 frames we have no trouble, because if the middle ribs reach over the division-boards slightly it will do no harm.


MURRAY-HEISS-CIN. O

URST, ALSO, OF HER HOME

MRS. JENNIE CULP'S APIARY,

AS REPORTED TO THE BEE-KEEPERS' CONVENTION LAST WINTER.

I COMMENCED the season's operations with a stock of 28 colonies; and as my chief object was honey rather than increase, I prevented early swarming by pinching out queen-cells; wanted but little increase, as I felt that, for an A B C scholar, I had already an "elephant" on my hands.

I commenced examining them the 6th of Feb., and increased their stores of honey as I thought they needed it, by inserting frames of honey; and as I had an abundance, I continued to supply them until the flow of white clover set in. I used nothing for stimulating to keep up brood-rearing but natural stores, and that in the frames as put up by the bees. To those who have not natural stores for feeding, I will say I carried my bees through the spring of 1882 very successfully on maple sugar in the cake. Meanwhile I built up weak colonies by giving them frames of brood from strong colonies, thus equalizing and keeping in vigorous action the whole apiary. As a result of such treatment I had every hive booming with bees when the flow of honey set in from white clover.

My first swarm issued June 15, the last one July 23, having an increase of 20 colonies, which was more than I desired; but multifarious duties, and light supply of help, led to my neglect of them, for I find the successful management of bees is what Patrick Henry termed the price of *liberty*.

June 18th and 19th I extracted 1200 lbs. of honey from the upper story of hives. I did not take any from the brood-chamber during the season. The 28 colonies not only furnished 5000 lbs. extracted honey, but furnished the increased colonies with from two to four frames of brood and honey to commence housekeeping with. The new colonies being immediately furnished with honey-boxes in order to give them working room, they not only filled their brood-chamber, but made 300 lbs. of comb honey in sections.

I attribute my success to having every thing in readiness, and bees in healthy vigorous condition on the opening of the honey season, and having surplus frames filled with comb so as to furnish each colony with a full supply, so that there was no time lost by workers in building comb, nor consequent waste of honey, as it is estimated that it requires 20 lbs. of honey for the production of 1 lb. of comb.

The time arrived when I had to say, "Enough honey; go to work and build me some comb." I removed 75 frames of honey from the upper stories, giving them empty frames with only inch starters, and the majority of them were built full of comb, and filled with honey.

Another element of success in profitable bee-keeping, I find to be keeping your bees busy. I think in their habits they approximate us beings of a higher order of intelligence, in that, when every wish is gratified, we are disposed to say, "Soul, take thine ease; thou hast much goods laid up for many years," or, in other words, when they have about filled their home they appear to settle down to a listless, lazy condition.

I often, when my bees become indolent, go to their hive, take away a part of their stores, or good comb, and, if possible, give them old broken or dirty comb (for you know they will not tolerate dirt), smoke them in if they are hanging out, and then witness with what renewed energy and diligence they assume the task of putting things to rights; and it will be a lesson, if properly appreciated, that will do the soul good (what a lesson to some of us housewives)! Give the stores, thus taken, to discouraged colonies, and thus stimulate them to action. It is asked by some, "How can you tell when they are discouraged?" Brother A. I. Root says he can tell a robber by his looks—"A robber has a sly, guilty look." *I* am not that far advanced; I have to judge by action, and there is, in my opinion, quite a difference between the actions of a contented, lazy bee, and one that is discouraged. You will soon learn by observation, and so modify your treatment.

I am so often asked by my correspondents for a description of the hive I use, that a brief description here may save time to all parties; and I therefore crave your indulgence. The hive I am using is a departure from the "Langstroth," designed by my husband as an improvement, but he was either more honest or less sanguine than most inventors; for, after a fair trial, he acknowledged it was not an improvement, the brood-chamber having in it 8 frames 17 inches long, 11 deep, upper story having 10 frames same length and depth (frames too deep). My hives and frames are uniform in size. I use the chaff, or cut-straw hive for winter packing. A very good idea of the general appearance may be had from accompanying plate.

Being a tyro in reporting as in bee-keeping, please accept in the spirit intended, and I remain respectfully yours,— MRS. JENNIE CULP.

Hilliards, Ohio, April 4, 1884.

Our friends will remember we spoke of Mrs. Culp's wonderful yield of honey on page 88, and we now take pleasure in presenting the full report, together with a picture of her pretty apiary. Perhaps I should explain that the above should have appeared some time ago, but we were kept waiting for the engraving, which, we trust, will repay for the delay.

Perhaps I should add, that Mrs. Culp's husband, before his decease, was a grower of small fruits, and on this account he possessed the taste and skill needed to give us a pretty view. As a rule, I do not like hives in long straight rows, as there is such a liability of both bees and queens getting into the wrong hive; but in the picture before us the shrubbery would likely enable the bees to fix a locality so as to avoid this difficulty. The shrubbery shown in the picture is much of it small fruits, if I am correct, interspersed with evergreens and fruit-bearing trees. Friend Culp, before his death, was a warm friend of GLEANINGS, and my acquaintance with him, which extended over many years, was very pleasant. It is a little sad to think that his apiary never, during his life, gave the results in honey that it has since he was taken away. Mrs. C. says that he planned the work for her, told her repeatedly what to do, had hives and frames in readiness, and busied himself during his last working hours before his death, to provide implements and necessaries that he knew she would need when she should be obliged to take up the work herself without her lifelong companion to teach and suggest. Even during the pain of his sickness, his work and his plans were for his wife and children. He may have hoped she would succeed; but, little did he know of the bountiful crop of honey that God was going to send her after he was gone. I believe I have before mentioned, that among his last words he advised her to write to me for advice, and to do as I said, whatever others might urge. She wrote to me promptly, and I advised her to give the bees cakes of maple sugar in the spring, when they needed feeding. I did this because I thought it would be safe for a beginner, and one inexperienced. She took my advice, and fed them maple sugar with a vengeance, and it was on account of this she thinks she secured such a crop of honey that some of the friends at the conventions talked about disputing her statements. At the close of one of her letters to me a while ago she closes with these words:

> I feel you will pardon me, as I have no father, husband, or brother to talk to, and at times I feel *alone*, as far as human sympathy is concerned. But my heavenly Father has been wonderfully good to me; he blesses me both temporally and spiritually.
>
> MRS. JENNIE CULP.

BEE CULTURE IN NORTHERN DAKOTA.

A LAMOURE MAN'S EXPERIENCE IN KEEPING BEES —PRACTICAL RESULTS.

As there has been some little inquiry in regard to bee culture in Dakota, we copy the follow- from the LaMoure *Progress:*

> For the benefit of those who doubt that bee-keeping can be made successful and profitable in Northern Dakota, or that this Territory is lacking in honey-producing plants, I write this, and I think my experience proves that bees can be kept with profit in this land of perpetual sunshine.
>
> In June, 1883, my father sent me from Illinois a five-framed nucleus (half a full colony) which I transferred immediately to a common-frame hive. It being very dry the fore part of the season, they made barely a living until the 1st of August, when they commenced to store honey at a lively rate, and by the 1st of September had filled their hive and given me a surplus of 10 lbs. This was done in a common-frame hive, without extra care. Thinking they would not do much in so dry a season, I had neglected them. If I had given them proper attention through August I should have had at least 50 lbs. of nice honey. I left them on their summer stands until the 14th of December. On the 12th they had a good fly, it being a nice warm day. How is that for latitude 46½? Bees in Northern Illinois are put in their winter quarters from the 15th of November to the 1st of December.
>
> I put my bees in a cellar under an unfinished house, there being no fire in the house during the winter. The temperature was below the freezing-point most of the time; but the bees came out all right in the spring, strong and healthy.
>
> They were put on their summer stand about the 12th of April, and soon after began gathering pollen. The crocus blooms here a few days after the snow leaves, and furnishes large quantities of pollen. On the 11th of June the old colony threw off a large swarm. Not having any trees or shrubs to alight on they alighted on the grass and weeds, making it very handy to hive them.
>
> Intending to give them more attention this season, and wishing to know what they would do with proper care, I sent to my brother for two chaff hives and sections for surplus honey. The hives were delayed, and I did not get the bees transferred until the second week in July, the bees losing about two weeks' work. The first of August they swarmed the second time. Not wishing any more swarms, I put them back, and put sections on both hives for surplus honey. On the 24th of Sept. I took from them 101 lbs. of nice section honey, all first class, leaving enough in the hives to winter on; and they are now in splendid condition for winter.
>
> At present there is a lack of honey-producing flowers in June and July, but I think that can be remedied in future by planting small fruits, and growing buckwheat. In some localities there is an abundance of basswood, which of itself furnishes honey enough. August is the best month for honey, when the goldenrod and wild sunflowers are in bloom.
>
> From my two years' experience I am convinced that in a few years North Dakota will raise enough honey for home consumption. ISAAC STAUFFER.
>
> LaMoure, Oct. 1, 1884.

NOTES FROM A BRANCH OF THE "BANNER APIARY."

MOVING BEES TO CATCH THE FALL PASTURAGE, ETC.

On page 593, Sept. GLEANINGS, you request me to give the result of moving my brothers' bees up here to catch the honey-flow from buckwheat and autumn wild flowers. Well, the result was satisfactory to me, for I got enough honey to pay me for my trouble, besides the experience in handling bees. I had them here from Aug. 4th to Oct. 6th, and got about 220 lbs. of extracted honey from 18 colonies during that time (2 colonies out of the 20 gave no surplus), and would have got from 75 to 100 lbs. more if I had had time to extract it just as soon as the honey-flow ceased, because the queens then stopped laying; and as fast as the brood hatched out, the bees carried a lot of the honey down below to fill up the empty cells. But, never mind; I shall know better next time.

To sum it all up, if I had taken valuable time to do the work, the honey has cost me nearly as much as it would to buy it; but as it is, I did the work when I had nothing else to do, and thus they kept me out of mischief.

THIEVES.

My apiary was visited by thieves this summer at two different times. The first time by a regular thief who intended to make a good haul, but the bees made it too hot for him, and he was forced to leave after taking only one frame of honey, and that was mostly brood, so he did not get very much. The next time it was visited by a party of boys who were out on a "cooning" expedition. They stole some of our watermelons, opened a hive, and took what they supposed to be a frame of honey, but it was nothing but an empty comb that I had extracted the honey from the day before, so they did not get very much either.

A GOOD WAY TO PROTECT AN APIARY FROM THIEVES.

I began to be alarmed, and thought I ought to do something to protect them, so I borrowed a gun and set it in a place where no one could go, slanting the muzzle downward, so the charge would go into the ground after it went a few feet. Then I stretched a strong cord clear around the apiary, outside of all of the hives, and attached it to the trigger of the gun, so any one approaching the apiary would trip the cord, and fire off the gun, which would wake us all up. The cord was held up about six inches from the ground by means of small stakes, driven into the ground about 15 feet apart. A small hole was bored near the top of the stakes for the cord to pass through. But they did not come the third time. H. L. HUTCHINSON.

May, Mich., Oct. 14, 1884.

Thanks, friend H. So you got over 12 lbs. of honey to the colony, besides giving them ample stores for winter use, and this all in about two months' time. Perhaps 220 lbs. was your share, and your brothers had about as much more, or did they take theirs in the honey they stored for winter? At any rate, it seems to me it was pretty fair for an experiment. I do not quite like your idea of using firearms, even to frighten away thieves. See what I have said in regard to honey-thieves on another page.

FRAMES TOUCHING THE BOTTOM-BOARD.

HOW IT COMES, AND HOW TO REMEDY IT.

As I was looking over my bees in a chaff hive bought of you the other day I found that the frames came so near the bottom that the bees had them stuck on so tight I found it almost impossible to remove them. Some of the frames rested on the bottom-board, and did not *hang* in the hive; they had them stuck with gum from both sides, which left a little space right under the frames, where I found several worms about ½ inch long. Do you think the worms could do any damage to a strong colony? Would it not be better to have the board on which the rabbet is nailed, 9½ or 10 inches wide instead of 9, as it now is? Then the bees could get right under the frames, and drive out Mr. Bee Moth. I find in the hives of my own make, exactly after your pattern, the same trouble. Have you had any such trouble in your apiary?

HIVES WITH TWO ENTRANCES.

I have thought I would construct a hive this winter (chaff pattern) with entrance on two sides, front and back; did you ever try one on that plan? Do you not think it would give better circulation in hot weather? ADAM LEISTER.

Brunswick, Ohio, Sept. 28, 1884.

Friend L., where you find a trouble such as you mention, first ascertain by measurement whether the trouble be with the frames or with the hives. The frames, as you will notice by the price list and A B C book, should be exactly 9⅛ inches, outside measure. If you find any of your frames that run any more than this, fix them, either by driving together or by taking off the bottom-bars and shaving down the end-bars until they are right. I would have the frames true to a gauge, no matter how much time it takes to fix them. After having done this, then proceed to fix all hives that do not give *at least* ¼ inch distance between the bottom-bar of the frame and bottom-board of the hive. The A B C book gives measurements so as to give full ⅜; but as all lumber shrinks more or less, many hives become in time so that the bottom-bars may kill bees, or harbor worms. I would never continue to use a hive that does either. A great many times the trouble is caused by the sagging of the bottom-bars. Where this is the case, pare out a little strip of comb close to the bottom-bar, then draw the bottom-bar up straight with one of our transferring wires, leaving the wire on until the bees fasten it. One reason why we use only wired frames now is, that it absolutely prevents any possibility of sagging with the bottom-bars. Where the bars are found to be at fault, if they are chaff hives we remedy them by prying off the metal rabbet and putting on a thin strip of wood, such as a comb-guide. If it is a Simplicity hive this plan will not answer, because raising the frame would make it unsuitable if another Simplicity hive should be placed over it. You see, raising the frames would carry them too close to the frames in the story above them. If Simplicity hives have shrunk by use so as to be too shallow, the only remedy is to brad thin strips of wood clear around the bottom of the hive. Where the corners meet, miter them as a picture-frame is mitered. If you have bought any hives of our make that cause trouble in this way, set a carpenter to fixing them; and when he gets through, send me word what the cost is, and I will pay it—that is, where the expense is anywhere within the bounds of reason. If we have made any hives, and sent them out, that pinch bees, or harbor worms, we prefer to make them good at our own expense.—Entrances on two sides have been in use for many years in many apiaries; but I believe they have been gradually discarded. During pretty cold weather one of them will need to be closed up, and this annoys and confuses the bees; whereas if your ventilation is given through one large entrance it can be enlarged or contracted without any such inconvenience. Probably the entrance to the Simplicity hive, with the alighting-board we always use, is the simplest method yet discovered of enlarging, contracting, or closing the entrance. With a strong colony in a hive several stories high, the hive may be slid forward so as to project two inches over the bottom-board, if desired.

HURRAH FOR FLORIDA!

FROM 88 TO 117, AND 22,550 LBS. OF HONEY.

As I suppose Harry has now taken about all the honey that he will take this year, I will make our final report. Our crop up to date consists of fifty-five barrels, holding 410 lbs. each of extracted honey, making about 22,550 lbs. in all, or about 255 lbs. per colony, spring count. My increase was from 88 in the spring to 117 now. There is a top section on nearly every hive, and they are well filled with honey.

The above is a good report, and will bring a shower of letters from all parts of the country, so I will say, right here, that I am so fortunate (?) as to hold a number of offices that bring me neither money nor honor, but thrust such an amount of correspondence and other writing on to me that, for the larger part of the past five years, I have had to give all my leisure and evenings to it, or else take the time of working hours. Add to this from two or three to ten or fifteen extra letters per each mail for months after each report or letter that I write for publication, and it is easy to see that my own correspondence, reading, and neighborly sociability, is pretty well "knocked out of time." I have always answered every letter, and wish to do so in the future, but propose to change the plan a little in my favor, if possible; so, Mr. Editor, if you will give me room in GLEANINGS I will send in a batch of replies every letter while to the questions that are asked me by those who are interested in bee culture. In this way I can, after a while, refer them by postal card to back numbers for replies to most of their questions. I shall always be glad to correspond directly with any of the well-known bee-keepers, or with others who write on business that I have an interest in.

My honey is going off quite rapidly in small lots to parties keeping grocery stores, and to others who retail from carts. W. S. HART.

New Smyrna, Fla.

Friend H., we congratulate you on your wonderful success again during 1884, and I am sure there is not one of our number but will acknowledge that you must have a laborious correspondence; and I believe, too, we shall all be quite willing to have our questions asked and answered through GLEANINGS, that we may have both questions and replies benefit others as well as ourselves. We will gladly give you the space, and hereby give notice to the friends to send in questions. I presume your report will start a stampede for Florida. Never mind if it does. Florida is not exhausted yet; and those who want to work, and are not afraid of discouragements, will probably like the new southern field for industry. Those who want to enjoy all the good things of this life without working very much for them if they can help it, will probably be disgusted, and may be say hard things about you.

WHEN SHALL BEE-KEEPERS CONGREGATE AT NEW ORLEANS?

ALSO SOMETHING ABOUT AMERICANIZED ITALIAN BEES.

I DESIRE to talk a little with you this evening, and to make a few suggestions for your consideration and advice. The first thing I will speak of is about our friend Cook's visit to the exposition at New Orleans. I would suggest that there be a call made for an informal international bee-keepers' meeting at the time Cook's exhibit is made, and that we, as bee-keepers of the United States, extend an invitation through the bee-journals, asking them to meet with us in convention. What say you, friend Root? Could it not be made an interesting time, besides instructive and entertaining? I think that such a meeting would bring many of us together. Have our dear old father Langstroth come with you, if life and health permit. It appears to me that we could have a good social time, and cheer us all in our work. Think over this, friend Root, and say what you think of such a meeting; and if it seems good and proper in your sight, lay it before your readers in a proper manner, and solicit all of our prominent bee-keepers to lend their presence and a helping hand to friend Cook, so he can make a display of our business, worthy the business. This suggestion occurred to my mind only last evening in writing to our friend Dr. N. P. Allen, ex-president A. B. S. of Kentucky. I told him I thought it would be good and proper.

About bees here in Florida, I think they can be made a profit and a pleasure. I have been here over a year, looking around and prospecting for a location, that I might go to queen-rearing, and I think I have found an island on an inland lake here where I shall have complete control of all bees on the island, and can keep only such as I desire to breed from. I can rear my drones only in such colonies as I desire, and can keep them in all their purity. I have written to our friend Frank Benton about obtaining for me some of the very best queens he can possibly obtain. What I want them for is to lay the foundation of a pure "American-Italian bee." I see no reason why we can not have and improve the Italian bee, if it is at all feasible to make it better than it is. I see little if any improvement on them since the first importations of Italian queens, either in color, docility, or honey-producing; but that there is an improvement made here in the United States is beyond question, on our home-bred queens. Now, friend Root, what do you think about such a venture? I should have every facility and advantage of having them purely mated, besides having the advantage of a climate where I could rear queens ten months in the year. It appears that such an apiary, worked exclusively for fine queens to breed from, and such queens sent out among the best honey-producers, could not fail to be equal to if not superior to imported queens; for if the start made were good and pure it would be easy to keep it so. I should like to talk an hour longer; but this will do for a start as talk No. 1; and if agreeable I should like to talk some other evening about several other things that might be of use to us, and you to give good and wholesome advice.

JOHN CRAYCRAFT.

Altoona, Fla., Oct. 16, 1884.

Friend C., it is certainly of very great importance that the bee-keepers of the world decide upon a time as near as may be when they can meet each other at New Orleans. Thousands of bee-keepers will go, without question, and it is of great importance that they center about some particular date, as near as may be. If one date won't answer, perhaps two different dates may be decided on. If Mr. Langstroth's health will permit him to go, we shall by all means rejoice to do all in our power to bring it about.—I am heartily in favor of the Americanized Italians; but at present we do not seem to be making the progress in this direction that stock-breeders do with their animals. It should be borne in mind, that Italy has for centuries, by her natural circumstances and surroundings, developed a very hardy and energetic race of honey-gatherers.

EXTRACTING THICK HONEY.

FRIEND DOOLITTLE'S VIEW ON THE VEXED QUESTION.

ON page 658 of present volume of GLEANINGS, I see that some have trouble getting thick honey out of the combs; and as I have had some experience in this line I will give it for the benefit of the many readers of GLEANINGS. Were it not that a much better article can be produced by leaving the honey on the hives till fall, or till all is thoroughly sealed, I should be greatly in favor of extracting every third to fifth day during the season; but after repeated trials of this kind, with all kinds of artificial evaporation, I find I can not produce nearly as good an article of honey out of this thin nectar as can be produced by leaving it in the hives for the bees to care for. Hence if we would have the best honey which can be produced it becomes a necessity that we should extract thick honey. When I received my first extractor it came in mid-winter; and being one of those who can not wait long to see a new invention work, of course I must try it immediately; so I repaired to the shop, took down some frames of honey I had stored away, uncapped them, and tried the machine. As might be expected, the thing was a failure, especially as this extractor was one with no gearing, but whose can and all revolved by means of a peg or handle placed near the center of the can. Upon going to bed that night I thought, of course, I could not succeed in throwing out frozen honey, for the extractor was made for use in the summer time when the weather is hot. After some study and planning, the next morning found me up bright and early, with several combs hanging up near the ceiling of a small room, with a good fire built and a thermometer hanging close by the combs of honey. I soon had the temperature of the room at the ceiling up to 95°, where I kept it for 6 hours; as I remembered of reading in some of M. Quinby's writings, that, if a comb of solid honey were to be given to a colony of bees in the winter, it should be left in a warm room at least half a day before being set with the bees, so as to get thoroughly warmed through. In the afternoon I again tried the extractor, when I could easily throw out 95 per cent of the honey the comb contained. Even that which was partially candied could nearly all be thrown out, and the comb hung away so clean that no bees were needed to clean them off.

Since then I have often extracted partly filled sections in January and February by this plan, getting out from 90 to 95 per cent of the honey, without injury to the most fragile combs, while I have no trouble at all in extracting from the brood-combs. By hanging the combs near the ceiling of the room it does not take an extremely hot fire to keep the temperature at from 90 to 100°, or even higher, if you have old tough combs. Keep the combs in just so much heat as they will bear without breaking down, for 6 hours, and no one need have one pound of honey left in them after extracting, as brother McNeill says he has. Another thing, the extracting is done in this way when there is little else to do, as fall and early winter is comparatively a time of leisure with most bee-keepers; and by tiering up and leaving the honey on the hives till fall, as friend Dadant advises, the cares of the busy season are not as great.

But, how about this thick honey being thrown over the top of the extractor? Well, if the person extracting can stand it to go into a room and work when the temperature is 100°, he will have little trouble; but if the extracting is done in a temperature of from 60 to 75°, there is not an extractor which I ever saw, with a revolving reel and stationary can, but that would throw honey over the top. Surely every Novice extractor will, that I have seen, although friend Root says he "never expects to furnish anybody with an extractor that throws over the top of the can;" and I have seen a good many such extractors. Friend Root, I would take back that offer to remedy all such extractors, for I don't believe you can do it short of a cover, and a cover to each one you have sent out would be quite a costly affair. I have the Novice extractor made for the Quinby frame, and use the Gallup frame in it, and still it throws thick honey over the top badly, when extracting in a temperate room. And how can it help doing so? for anybody who has done any extracting knows that the motion of the reel causes the air to come with a whirl out of the can on the outside, while at the same time it is supplied by air going in at the center. Thus we have a circular fan, as it were. Now, this liquid always goes in the form of drops, when separated from the main body, while *thick* liquid draws out into fine streams, like strings or hairs; hence it will be seen that the drops of thin honey leave the combs, during the process of extracting, by the force given them by the extractor, and pass directly to the side of the can; while the thick honey is drawn out by the same force into strings, or fine hairs. Now, so soon as the cool air caused by this circular fan strikes these hairs of honey, it causes them to draw out still finer, till they become so light that they are wafted up and out of the can, and there is no way to prevent it short of a cover, that I can see. The harder the combs are revolved, with the intention of extracting the honey entirely clean, the worse the honey flies; for by such an operation the little honey in the comb becomes drawn out into fine strings, or hairs, so that nearly all of it is floated over the top of the can, on to the clothes of the bee-keeper, or walls of the honey-house, as brother McNeill tells us of. The remedy is a cover to the extractor, or a room whose air is so warm that the honey will be so thin that it leaves the combs in drops, instead of streams or hairs.

Now, friend Root, if you still insist on fixing all of the extractors which throw honey over the top, in any other way save by the hot-room process, there are several in this neighborhood which you can begin on. G. M. DOOLITTLE.

Borodino, N. Y., Oct. 15, 1884.

Friend D., your article is one of very great value indeed, at the present crisis. Before we received it I began to conjecture where the trouble lay. It is a little singular, that the matter has not come up before, especially while more than 3000 of our extractors are in actual use. Another thing, I have used extractors of our make, for extracting late in the fall, and I never saw any honey fly up over the top at all since those of our first make, which had sheets of tin instead of bars. These, of course, blew the air like a fanning-mill. We have had a few complaints in four or five years back, but all were remedied by making a band of tin to come about five inches higher than the top of the extractor-can. I should object to a cover, because it must be removed every time the combs are lifted up and put back, and that for me would be out of the question. Perhaps a cover with a very large opening—large enough, in fact, to take out and put in combs without any hindrance, might do the business; or perhaps a projection inward of about two or three inches might serve to catch all the honey that would be liable to get out of the top, and this can be demonstrated only by experiment. If any of our readers have extracting to do we will furnish them such a cover free of charge, and pay them for making the experiment besides; and when we discover the best way of remedying the difficulty we will furnish the covers free for every extractor sold. Of course, every one who uses an extractor should take advantage of your kindly hints. If the weather is not warm, do the work in quite a warm room; in fact, there is almost no other way to get out a greater part of the honey — say 90 per cent. Where extracting is done in hot weather, of course there will be no trouble, and hereafter we will have this caution embodied in our directions for use.

FERTILIZATION OF QUEEN-CELLS.

ABOUT 130 CELLS DOCTORED IN 45 NUCLEI, AND THE RESULT.

ABOUT the 20th of August last, I commenced to doctor or fertilize the cells in 45 nuclei, to test its advantages over the usual way of raising queens, with a view to its commercial value to queen-raisers, both buyers and sellers. The first three cells in each nuclei were doctored, and marked to distinguish them from any built after, and not doctored. The first capped was marked from the 22d cell, and 2d from the 32d; the undoctored were left so that the nuclei could still raise a queen, even if they destroyed all the doctored cells.

To note and keep record of the dates of giving the brood, the capping of cells, dates of hatching, and of first eggs laid, I had to invent a machine, or calendar—one that I could read any date on from any position, or at any distance in my apiary, of each nuclei; by means of this calendar, any thing pertaining to a nucleus can be seen at a glance. I will describe it and its working in a future article soon. Out of 45 nuclei I raised 20 queens from fertilized cells; the other nuclei either had all the doctored cells destroyed or the unfertilized cells hatched out first, as the average time for fertilized cells to hatch with me was a little over 12 days—the shortest, 6 days; longest, 16 days. Of the 20 queens from fertilized cells, 2 had imperfect wings; and although large fine queens, looking like laying queens, they in 3 or 4 days came up missing; 6 laid eggs within 24 hours; 3 laid a few eggs the first day, then quit until the 4th day, when they commenced to lay regularly, as other laying queens. Three commenced to lay as fertile queens from the first, without any interruption; 4 commenced the 4th day; 3 commenced the 6th day; 2 each the 7th and 8th days; one each the 9th and 10th days. These cells were fertilized by opening the queen-cell at the base, and inserting a live drone-larva into the queen-cell, the drone-larva one-half the size of the queen-larva, performed within 24 hours after the capping of the queen-cells by the bees.

In my next I will give result of cells in 25 nuclei, cells fertilized by the juice. O. M. PRICE.

Tampa, Fla., Oct. 9, 1884.

Many thanks, friend P., for the report, so faithfully given, of failure as well as success. If we were to have no progress, very likely the expense would be more than it is worth; but it seems to me when we once get hold of the essential points to success, the matter may be found to be quite simple, and be pretty reliable. In any event, it is a wonderful discovery. Is it indeed possible that worker-bees may be produced by a queen, without any agency of the drone whatever? We shall be very glad indeed to hear further reports.

A BOOM FROM CALIFORNIA.

FROM 18 STARVING COLONIES IN THE SPRING TO 69, AND 10,570 LBS. OF COMB HONEY.

IN the spring of 1883, Israel Bros. moved their apiary—101 hives—from the shores of San-Diego Bay to a ranch within a mile of here. We stopped there, bees and all, until we could make a road. In the fall or late summer we moved ourselves up here. The bees were left below three months later. We had a young man with us to "learn the bee business." He would go down to his neighbor's house, where the bees were left, take out a sheet of honey, break it out of the frame, and hide the frame in the bushes. In the morning the bees would become frantic—finish up what was on the frame, and then dash into the weakest hives. Remember, that last year was the worst year in 52 years. All old Californians say so. There were thousands of swarms in the mountains, starving to death. While our bees were fighting one another, the barbarians came in from the mountains and whipped them both and carried off what supplies were left. I saved 18 hives only. If I had been there it never would have happened. *That* boy vacated the ranch, and I moved the 18 hives up here. Now from this on, mark the history of these 18 hives of bees. They had not four ounces of honey in each hive on the 1st day of January, 1884. I dashed off to town—28 miles—for sugar, and the store-keeper called me an "idiot." But I got the sugar, and brought it home. I became the laughing-stock and butt of the smart "allecs" around the neighborhood. Every place I went I was marked as the "fool that was feeding his bees." Fool, lunatic, maniac, idiot, were some of the mildest names applied to me (when *I was not there*). You see, it is *almost* a crime to feed bees here. But in answer to all their sallies of wit I only said to them, "Gentlemen, I think I know what I am about." So I went on quietly feeding each swarm two or three fluid oz. of syrup daily. But, let your readers remember that there is no winter here, and we can feed what we please, winter or summer. What did they do? Well, they did it, and I don't think it will soon slip from my memory *how* they did it.

These 18 hives, that had not 4 oz. to the hive of honey, and their progeny, made 10,570 lbs. *comb* honey; thus, 6496 lbs. in section boxes, which we have stored in town, waiting for a "rise." Then they have increased to 69 swarms, 68 of which have 60 lbs. of honey in their brood-chamber each—making 4080 lbs.; in all, 10,570 lbs., every ounce of which these bees gathered this season.

If any one else has beaten this, either in or out of this State, I should like to make his acquaintance and shake him by the hand—provided he has done it with an equal number of hives.

Now, listen *hard*—here is a nut to crack, and nobody here has been equal to the task. You know the Harbison honey-box—8 two-pound sections fastened together. Well, we *don't use that*, but we use the Lovett box—exactly the same size and same number of sections. It is much smoother, nicer, and more easily made. Now for the nut. The bees filled the whole of the section jam full of honey, and sealed the whole of it up except the ends of each box of sections. Each end section would be sealed on the inside; but on the outside it would all be open, except a spot in the middle. They played this on us—not here alone, but all over the county

—for a whole month. All this time, or a greater part of it, they were clustered out, and appeared to be mostly asleep; others appeared to be attending a gymnastic school held on the alighting-board; trying who could stand longest on his head seemed to be the principal exercise. What did we do? Well, the great majority "let 'em went." But I was determined not to lose the great honey-flow, and I tiered up on them two and some eventually three stories high above the brood-chamber. Did that make them seal it up? No, not worth a cent. They sealed it up when they got ready. But, oh how they did pile up the honey then!

We also traded 40 hives for 40 new swarms a mile from here. They are there yet; 34 of them gave us 3480 lbs. comb honey, and the rest filled their brood-chambers. We caught six swarms, and so have in all 115 swarms to begin the season on. The bees are still gathering enough to live on—a most extraordinary thing in this country at this time of year.

In two months, more or less, we shall have plenty of flowers, and so you see the bees will have but a short rest. The season generally ends July 1st to 15th.

J. P. ISRAEL.

San Dieguito, Cal., Oct. 11, 1884.

Why, friend I., is it really possible that you made over 587 lbs. of comb honey from each of those 18 starving colonies? What do the men around there now say about the "bee-lunatic"? Well, well, all these things go to show that God in his great mercy seems to think best to scatter the honey over different localities, first here and then there; one year in York State, and then in Canada, and then in Iowa; next in Louisiana, and this year in Florida and California. Well, the York-State folks, and Canada folks, the greater part of them, will have to content themselves by being happy to see their far-off neighbors roll in the dollars. A great moral stands out here sharp and clear—hold on to your bees; take good care of them by feeding sugar (we are doing that very thing now; but it costs us only between 6 and 7 cts. in New York, granulated at that), so we can stand it; and when the honey comes, have your bowl right side up, and do not let it run over to waste.

EXTRACTING IN COLD WEATHER.

USING STEAM TO WARM THE HONEY IN THE COMBS.

GLEANINGS for Oct. 1st is just received. I have had the same experience as James McNeill, page 658. For the last 5 years, since moving to this place, where it is much colder than at Los Angeles, my former residence, I have had difficulty in extracting the honey in the fall. I used to take the caps off the hives during October, generally after the first cold spell. I took off every forenoon as many as I could extract during the remainder of the day. If the honey was left in the combs over night in the house, it was almost impossible to extract it the following day. Many a time, when delayed by other work, have I been extracting till 10 and 11 o'clock at night, in order to finish up the combs I had in the house. Even then many combs were put away only partially extracted, as mentioned by Mr. McNeill. This fall I commenced taking the caps off one month earlier than usual, to avoid this trouble, and to get through with the extracting, while there were still plenty of fall flowers in bloom, and before the bees showed any inclination to rob. When about two thirds through there came a spell of cold, cloudy, windy, disagreeable weather, which, in connection with other business, prevented me from taking honey off for more than a week. When the weather moderated, and I commenced again, I found that the honey had become so thick in the combs that it could not be extracted—not the faintest sprinkle. In despair I was about to store the full combs from 30 hives away until next summer, when I happened to think of a suggestion I had seen once or twice in GLEANINGS; viz., steaming the combs. Taking down the large can, which holds my dipping-boiler for comb foundation, I placed it on the stove, poured in boiling water till it covered the bottom one-half inch or more, hung two combs in the can with their shoulders resting on the top edge, and covered the whole with a single thickness of coffee sacking. I kept up a moderate fire. When the capping commenced to feel pretty soft I took out one comb and immediately put in another. After uncapping the first comb, and placing it in the extractor, I took out the second, replacing that with another. The experiment worked admirably. After getting the extractor up to full speed, and not a very high speed either, 4 to 6 revolutions of the reel would throw the bulk of the honey out in large drops. A few more turns threw out the rest in a fine spray, and the combs were emptied as effectually as if they had contained new, thin, unsealed honey.

By proceeding as above described, it will be seen that each comb is steamed just the length of time it takes to uncap and extract two combs. The steaming does not heat the honey perceptibly, but warms it just enough to make it extract easily. On laying my hand flat on the uncapped surface of a comb, to test the temperature, it felt neither warm nor cold to the touch. After the honey has been in the extractor or tank over night it will be as thick as before. This solves the difficulty then, and after this my "peace of mind" shall not be disturbed by any trouble about extracting in cold weather.

Like Mr. McNeill, I have tried returning the combs after the last extracting, to get them cleaned off by the bees, but found it unsatisfactory. Either the bees would not touch the combs at all, or they would store the honey in patches, which had to be extracted again. It is also certain to induce or aggravate robbing. I find that leaving the combs covered with the film of honey (naturally adhering to them after extracting) is a protection against the ravages of the moth worms. They will not work in the sticky honey. Of course, it is a little more work to steam the combs, but the extra honey I secure thereby amply repays me. That single suggestion in GLEANINGS proves how valuable a bee-paper is to the apiarist, and how we are all indebted to each other for knowledge, progress, and success.

WM. MUTH-RASMUSSEN.

Independence, Cal., Oct. 11, 1884.

Thanks, friend M. The suggestion you give us was communicated by a friend whose name I can not now recall; but with the light thrown on the subject from friend Doolittle's article, in connection with yours, it seems to promise to become a very important matter, because it will enable us to give the public riper honey than perhaps they have ever had before. I remember one fall that we extracted the upper combs quite late in the season; and to avoid robbers we did it by moonlight. This honey was mostly basswood, but it was so thick and rich that one would hardly recognize it. It always makes me hungry for honey when I think of that lot. It was rather dark in color, from being so thick, and we did not get nearly all the honey out of the combs. I am inclined to think with friend Doolittle, the bees can ripen honey better than anybody else. If comb honey were so thoroughly ripened, when left with the bees a month or two it would look so unsightly that few if any would purchase it, but they would make a mistake, according to my notion of things. For our own use I like to take a brood-frame that has never had any brood in it, after it has got old and well ripened, and cut it up into nice little squares for the table. It will be dark colored, it is true; but I tell you, friends, it is good honey to eat.

MORE ABOUT THE HONEY-DEW.

Does It Really Fall from the Clouds?

ALSO A CAUTION IN REGARD TO EXTRACTING AFTER THE SEASON IS OVER.

HAVING heard so much about the honey-dew, I must give you my experience and observations in the matter. I do not dispute its being gathered from fluid of insects; but my experience is, that it collects here in the atmosphere—sometimes, I think, from a sweet vapor arising from different plants and herbs. My experience is, that it commences to fall of an evening about half an hour by sun; and how long it falls I am not able to say—all night for what I know.

About twenty-nine years ago, one evening I was shooting squirrels. While looking up I saw a drop almost as big as the end of my finger, falling through the tree-tops. I went to where it fell, and found it to be apparently pure honey. I have found one or two years since, when heavy honey-dews fall drops on the leaves. It shows most on hickory and black oak.

My bees gathered about 350 lbs. of honey-dew honey this year, as fine tasted as I ever ate, but it is dark. Almost everybody likes it better than the clover honey. The honey-dew honey is so thick of a cool morning, it will scarcely run.

I will tell you of my success this season in apiculture. I commenced in the spring with 17, all very weak, some not a quart of bees to the hive; and by the time I got them built up strong, while clover was pretty well over. I increased to 30, all tolerably strong now, but they have been doing little for nearly two months. Just as my last buckwheat came in, the dry weather set in and they made nothing from it. The last time I looked in them, almost all had enough to winter; but I am afraid they will be short of stores, as they keep trying to rob all the time. The last extracting I did, set them to robbing and fighting dreadfully. They about destroyed the swarm I extracted from. I have been afraid to look at them since. I got only 700 lbs. of honey, on account of their being weak at clover-blooming. Now, Bro. Root, would you double up the weak swarms and feed syrup in case of scanty stores? If not worrying you too much, I would like some advice through GLEANINGS. I will close, for fear I shall worry your patience too much to read all I have scribbled. I know you must be one of the best Christians in the world, or you could never have the patience to answer so much, and I know God will bless and prosper you for so doing, and great will be your reward in the future. CHAS. L. GOUGH.

Rock Spring, Mo., Oct. 10, 1884.

Friend G., your concluding kind words almost make me ashamed of myself, and I think they will do me good, for it has stirred me up to resolve to be more patient and more untiring in answering all sorts of questions that the many kind friends may care to ask me.—I think you are surely mistaken in thinking that honey may ever fall from the atmosphere. While shooting squirrels you were, of course, near large trees, and a large drop of honey, without doubt, poured off from a leaf, or may be there was a hive of bees somewhere up in a limb, and a new comb broke down, as is often the case, and the honey ran out. If you will read what has been said in our back volumes, especially Prof. Cook's articles on the subject, I think you will agree with the rest of us.—It is very unwise for any but an old experienced hand to undertake to extract after the bees have stopped gathering honey. I should expect just the result you mention, unless it were one who had been through such scenes till he knew just when to stop. In regard to this matter of robbing, books or talk seem to do but little good. One has got to lose a few colonies before he can be thoroughly taught, or taught so effectually that it will be safe to intrust a good-sized apiary to his care afterward.—I think I would double up the weak swarms, and feed syrup, especially as it is so late in the season. Had you commenced sooner, you might have fed the weak ones, and got them to raise brood.—Thanks for the kind words.

FROM THE FRUIT-DALE APIARY.

REVERSIBLE FRAMES, SAGGING TOP-BARS, AND OTHER MATTERS.

THE season opened with a prospect of a bountiful flow of honey, and I did all in my power to help the bees. I got them up to as good force as I could, and they made a good start, and I gave the queen all the room needed by extracting, etc. I crowded them on to 7 frames, which was almost a perfect sheet of brood; and the way I gained this was partly by reversing frames. We all have too many combs that do not fill the frames by ½ inch or more. Where I had your metal corners I took the top ones off and exchanged with the bottoms. This is reversing only once; but I tell you that is one of the best things I ever did. It is nice to have full frames; and if they are all full we can use one less to a hive than we can as they are usually used. On some of them I use a wire screwed on to the ends of frames, which run down an inch, with an arm at top for a rest. These I can change in a moment. I also sawed the top-bars from my all wood frames, and nailed a top-bar in place of the bottom-bar. If an inch space was left between comb and bar, I fitted in a strip of comb; and now I have every comb full and perfect. Of course, I shaved the combs down so the old top is ⅞. It was an experiment, partly to see the effect of brood-rearing and getting bees into sections, as well as to have full combs. In each frame reversed, where honey was above the brood before being reversed, the bees removed the honey and took it up; but finding no room on account of brood, they were obliged to go up into the boxes. If one has an extractor he can hasten the removing. The comb must be trimmed so as to uncap all sealed honey, and must be only ⅞ thick, so the bees will adopt it at once as a brood-department.

I am so well pleased with reversing that I should do so if I had hundreds of colonies. Friend Root, there is a serious trouble with the weak or thin top-bars; although we use wired frames and braces, yet when a frame is loaded for winter stores they do sag badly. I have handled quite a lot of bees away from home, and I very often meet the same trouble. Often they touch the bottom of hive, and the poor little bees sing out, "Oh, oh, oh!" I have been so perplexed at such troubles that I almost think I shall have all frames ½ in. thick inside end-bars, then drive a wire nail into the frames so the corner or brace wire will draw over these, then draw them tight with a good center-brace, and see if we shall have such sagged and bad frames. One bee-keeper near me uses the Hofman frame; they have ½-inch top-bar, and he has no such saddle-backed, awkward work. Of course, a thin top-bar on thousands of combs is a big thing; but still, would it not be better to have full comb at the bottom, and use a good substantial top-bar?

"But," says one, "the bees will not take to the sections as readily over thick bars;" but if he could see the large lots of Aroostook honey that was all "toated" up over thick top-bars, I guess theory would all vanish. One party from there took 1½ tons of the nicest honey, all in one-pound boxes, that was ever produced in this part of the country. He used separators on all, so they could be placed every way, and no breaking or bruising the beautiful combs. He uses a full set of wide frames in upper story, and one on each side of 7 brood-combs; but we can not use so much surplus room here, because we do not get half the flow they do there in the new place.

But, again, I am back on the sagging question, and here I had a good witness on my argument, "for," said he, "the wide frames I dislike, because they sag so badly. The cracks opened at top of boxes are all filled with bee gum, and the bottom-bars are glued to the brood-frames below." But we can easily get over this by nailing a strip of tin ¼ in. wide on to top-bar near end-bar, and then down diagonally to center of bottom-bar, which I did a few years ago, and it worked like a charm. I used tin because it is thin; and when the frames are crowded together we know no difference. A number of fine wires would do, and be more convenient. Just try it, friend R.

I am going to tell you how I like a section-case. Make frames to hold three 4¼ boxes, and a case wide enough to fill inside of hive, or about ¼ in. less and ⅜ deeper than the little frames. Now make a division-board, same depth of case, with a few thicknesses of cloth on the ends, and you have a case to suit any number of combs. The under sides are beveled from inside down to scant ⅛, and up ½ or ⅝, so the bees can pass up from side of hive into the case. I also tack ⅜ by ⅛ strips on one inside of case, so as to allow the boxes to rest against them, then the bees have a full and free pass at the outside boxes. Now, with this case we can use separators or not, and any width of box, for we can use as narrow a frame for boxes as we desire; and if we use only a few brood-frames we can use as few boxes as we desire. Of course, the case does not cover the whole length of frames; but a cloth can easily cover the ends, and the case can set at one end of brood-frames, or over the center, and cloths used at each end. After making a number of different cases I am better pleased with this than all others. I don't like a case the whole width and length of a common hive; it's like a big hat on a little boy. I think one 5 boxes wide is enough; for more, use only 7 frames under a case than do a whole set, then the wide case sets out over, and is a real bother. It's much easer to fix a narrow case than one too wide, especially where a full one requires ½ bushel to fill it. I am but one, and only give my ideas; and if of any good, I shall be pleased.

E. P. CHURCHILL.

North Auburn, Maine, Oct., 1884.

Friend C., your ideas are good; and one reason you give for using a reversible frame I had not thought of before. It is this: We have more cells in a frame, or, at least, more available cells, than we should like to have without a reversing device. As once or twice reversing will suffice, as far as this is concerned, perhaps we can manage this without any expensive device. In a chaff hive we can very easily set all the frames of fdn. upside down when they are first given to the bees; that is, put them upside down in the upper story. After the combs are pretty well built out, hang them in the usual way. Won't this answer? One difficulty in regard to reversible frames is that it is scarcely possible to make as substantial a top-bar without considerable additional expense. I agree with you that top-bars ought not to sag; but I do not think we are obliged to make them half an inch or more to accomplish this. Of late years our top-bars have all been made full ⅝; and these, supported in the center by a tin bar with diagonal wires for a brace, surely can not sag unless the diagonal wire breaks, or the tin bar doubles up, or something of that sort. It is true, we want frames that will stay right to the spot, no matter how much honey the bees store in the combs, and at the same time we want as much room inside the frame as we can conveniently get. I have often thought of a frame made entirely of folded tin, but it would be much more expensive, and cold for the bees in cool weather. After it becomes covered with wax, however, I suppose the latter objection would not amount to much. Frames have already been used made of perforated tin, and these seem to answer, so far as I know, with the exception of the expense. Several years ago there was considerable said about bracing wide frames with diagonal wires, as we do our brood-frames; but since we have commenced making them heavier all around, little or nothing has been said about it. I hardly think our wide frames, as we use them now, will trouble in the way you mention. The arrangement of three boxes in a frame is like that shown on page 18 of our price list, beside the portico hive. It is used by some bee-keepers; but as the arrangement is more expensive, and more trouble to manipulate, besides admitting a less number of sections, it has been pretty much discarded. I admit that the reasons you give for its use are many of them quite important, friend C.

HEADS OF GRAIN
FROM DIFFERENT FIELDS.

A CALIFORNIA APIARY; ALSO HOW TO MAKE A SMOKER THAT DOES NOT HAVE TO BE BLOWN.

I WILL write a little description of my bee-ranch. It is in the Sierra-Nevada mountains, about 6000 feet above sea-level. The bees range up to about 7000 and 8000 feet. The snow melts off in the spring, but there has been snow in sight all summer from my place.

I have the boss smoker. It is my invention, so far as heard from. You can load it up with any thing—old chips, green wood, or any thing else, and work all day—no bellows, no danger of fire, cold blast, no ashes to get in your honey. A tea-kettle will serve to illustrate it. With a long spout to put about three or four feet of rubber hose on, and a vent-hole in the bottom, start a fire in it and put on the lid. The smoke comes through the hose; you can bend it around wherever you want it, and go to work with both hands. Let it fall down, or lay it on the hive, as you like; a few holes in the side make more smoke, like the Townley smoker. The hose can be put down in the hive anywhere, to drive the bees down. G. W. COVER.

Downieville, Cal., Sept. 19, 1884.

Friend C., your idea is certainly a bright one. By having the tea-kettle part of the smoker down on the ground while the hive is elevated enough so we would have a foot or two of draft, very likely the stream of smoke would go of itself anywhere you wanted it. Why didn't somebody think of it before? We will have one made, and report.

FAIR PROGRESS FROM SEVERAL A B C SCHOLARS.

I will send you a short report for the season of 1884. I started in the spring with five swarms, having lost five during last winter and spring. One of the swarms I had left in the spring was queenless, and the others were in good condition. I shall have 14 or 15 to commence winter with; seven of the increase were natural swarms; the rest were made by dividing. I have not got all my honey taken off yet, so I do not know just how much I shall have; but I think I shall get about 125 lbs. One of my swarms kept on working some in the sections during the latter part of the dry weather, when others did not do any thing in sections at all. They were Italians, and they worked on red clover. The old swarm—that is, the swarm from this swarm, came out, swarmed three times, and worked some in sections afterward. I bought the bees in the first place of Dr. J. P. H. Brown, of Augusta, Ga. I also had the care of six swarms belonging to my father. One of those was very weak in the spring, but it recruited up and sent out a good swarm on the 25th of June. The other five did not swarm at all, but will average nearly 40 lbs. of honey apiece. One swarm filled 60 one-pound sections. Mr. Wm. H. Barb, a young man who is working for us, also had two swarms last spring. They swarmed twice each, but the second swarm from one of them went to the woods. He bought a queen and about a pound of bees a short time afterward, and gave them some frames of brood, so he now has six swarms. He will get about 75 lbs. of honey.

One of my neighbors, Mr. John G. Kagy, had one swarm of Italians last spring, which swarmed the first time on the 15th of May, and swarmed four times from that time until June 1st, so he has six swarms now, all the increase being from the one he had in the spring. The young swarms will all have enough honey, or nearly so, at least, to winter, and the old swarm has made quite a bit of honey in sections. I have read a good deal in GLEANINGS about swarms leaving without clustering. Eight years ago I saw a swarm come out of one of father's hives, and they went straight for the woods, without any of them clustering. J. S. BARB.

Bristolville, Ohio, Oct. 9, 1884.

ARTIFICIAL PASTURAGE, ETC.

Last spring I sent to you for some figwort and spider-plant seed, 5 cents' worth, I think. I sowed it in the hotbed; the spider plants I have not seen yet, but I got 3 plants of figwort; transplanted them, and the bees have been gathering honey from them for a month or more. Now, I have about an acre of land, light soil, on the top of a hill; it is so situated as to be virtually waste land. Now, is there any honey-plant that you can recommend, that, after I plant it up there, will *stay* planted and yield honey enough to pay for the work and seed? I should like something that will come in after clover and buckwheat. My bees have been nearly idle since buckwheat-bloom. The alsike seed I got of you last spring came up well; and although we have had a very dry fall, it is looking nicely. This is my first year with bees. I find I have made some mistakes. One was in not getting an extractor sooner. I have increased from 6, spring count, to 21. Extracted 100 lbs., and about the same amount of comb honey from white clover; sold three queens, and Italianized 6 of my own blacks, so I have all Italians and Holy-Lands now. That is not a large report, still I am not in Blasted Hopes, but expect to do a little better next year, as I have 45 extra combs built on foundation, and frames wired. I wintered without loss in the cellar last winter, so that I shall put them all in again. A. J. HAYNER.

West Sand Lake, Rens. Co., N. Y., Oct. 8, 1884.

Friend H., I think it is a little doubtful about your finding any honey-plant that will pay for the cost of the ground, and cultivation, alone. Sweet clover will probably come close to it. If you can find a market for the seed it will probably be a safe investment. We have recently got seed enough from an eighth of an acre to pay well for the ground and cultivation, and the bees were *exceedingly* busy on it during all of our dry weather. We saved the seed by cutting the stalks as soon as much of it began to rattle off. The stalks were thrashed at once lightly with a flail, spread out in the sun for about a week until more of the seed had become ripe and dry enough, and then thrashed again. As a little will still remain in the stalks, be careful where you put them. A few years ago we tried plowing under the dry stalks, but the seed from them came up so thickly we abandoned the ground to it, and it gives us a very nice patch nicely seeded.

HOLY-LANDS, ETC.

I am sorry to read so many failures of honey this season. It looks a little discouraging for beginners; but I will give a description of my honey crop this season. From 9 good strong colonies on April 1, I got a good start on apple-blossom. May to August

15 I got 300 sections; from Aug. 15 to Sept. 15, 425 sections, making 725 in all, 1-pound sections, and an increase of 11 swarms, making me now 18 good and 2 weak ones—20 in all. Some swarmed twice, but I put them back in the same hive; 5 of them swarmed in August. I put them back, and they did well. I cut out all queen-cells—no second swarming for me; hives are full of honey for winter stores; 7 frames filled about to the bottoms.

Do you think it would pay me to raise queens to sell? I have but few black bees within 2 miles; my best results and nicest honey were from hybrids. I have one hive full of Holy-Lands so cross I had to carry them over in the lots half a mile, to get rid of them. They are ugly, and I got but little honey from them. No more of them for me. They want to swarm all summer.

My honey crop was 600 lbs. comb honey; average, 66 lbs. per hive. I sold it in two grades—capped and partly capped – at 15 and 20 cts., to stores.

I have just returned from our Danbury fair, in Connecticut. Not one bit of honey was there. I wished I had my observatory hive there.

Katonah, N. Y., Oct. 13, 1884. G. A. MATHEWS.

FEEDING LATE.

How late will it do to feed bees in the fall, to prolong brood-rearing?

Friend R., you can feed any time in winter when it is warm enough for the bees to fly. But you should endeavor to get them to empty the feeder, and have it taken away so they can be covered up again before the recurrence of severe weather. There are usually plenty of days in November when feeding can be done, if you have every thing ready, and get at it just as soon as the weather moderates sufficiently. There is usually a spell in December also. I would have the feed quite warm for feeding at such times, and put your quilts or cushions around it, and it will keep warm until a good strong colony will have time to put it all in the combs.

SIZE OF VENTILATORS FOR A WINTERING-HOUSE.

How big a ventilator do I need at the bottom of my bee-house, it being 16 x 16 square, with no joists nor chamber floor? I put on a cottage roof, and lathed and plastered up the rafters to the peak.

I should say, at a rough guess, that your ventilator should be one foot square through the floor, and the same through the ceiling; but a better way would be to have a slide to close it up when the weather is severe. If the opening in the floor is from a pipe laid in the ground, on the plan of sub-earth ventilation, 6 inches square would do, and the pipes should be of about the same capacity, say for about 100 colonies.

WHAT POINT OF THE COMPASS SHOULD HIVES FACE?

What is the best way for hives to face? The most of them here face the east; but the way my apiary is located, it would be the most convenient for them to face southwest. Please let me know at once, if that won't do as well as any other way. I like to have the bees so I can watch them from the house, and look at the front of the hive. B. E. RICE.

Boscobel, Wis., Oct. 20, 1884.

It does not matter particularly which way your hives face. The only objection to having them face all one way is, that the bees are much more apt to get confused, and strike the wrong hive; therefore if you *must* have them face all one way, I would have them located not less than 10 or 12 feet apart.

REMEDY FOR WOUNDS MADE BY RUSTY NAILS.

If a child step on a rusty nail, soak the foot in a lye — one pint of ashes to 2 quarts of warm water, and all pain will disappear. I have used it; it will not smart. MRS. H. L. OSBORN.

Stoughton, Wis., Oct. 1, 1884.

Thank you, my friend. The ashes and hot water operate in this case about the same as the felon remedy I gave. Now, it will be interesting to prove by experiment, whether or not hot water would not answer alone as well, or nearly as well. Very likely, however, the pungent nature of the alkali would assist in reaching the seat of pain.

QUEENS ACROSS THE OCEAN BY MAIL.

I received from friend Benton, on the 22d of this month, an extra-fine Italian queen. She was 17 days in the mail; the cage was the same as you show in GLEANINGS, Sept. 1, only one-half the size. There were 20 dead bees and 11 live ones with her. The Good candy was about two-thirds consumed; no water. She is from the province of Emilia, Italy. I have introduced her to a strong colony, and she is laying. One more for friend Benton! Long may he live, a benefactor to the bee-keeping public. L. P. BILLINGS.

Bloomington, Ill., Sept. 29, 1884.

A GOOD WORD FOR THE HOLY-LANDS.

I have one fine colony of Holy-Land bees from the fine queen I got of you, and they are nicer, finer bees, and work earlier and later, than any of the others, and are gentler than the others. I would not take $25.00 for them now. Others seeing them want them in 1885. I think when men and women keep bees it is best to keep the best, as they get more honey, and the moth will not bother them as they do the black ones, as one-half the amount of those bees keep the hive free, where the moths get away with the common bees. D. H. HARKER.

Woodword, Dallas Co., Iowa, Sept. 17, 1884.

PREMIUMS ON HONEY, ETC.

I put some extracted honey in the nest of pails, and they received a premium; and some nice white-clover sections, well filled in the boxes, which were quite a novelty to most at the fair; but the committee passed the boxes by and gave me the premium on a crate of 36 1½-pound sections. The fair was a success. I received first premium on fdn., made on the Vandervort mill.

My bees have given me some increase and about 80 lbs., comb honey per colony from the colonies that I worked for comb. C. J. CLARK.

Bowling Green, Ohio, Oct. 13, 1884.

SUGAR AND HONEY FOR FEEDING.

I am transferring a number of stocks from old hives to new, and as I put in but a frame or two of brood, and feed up the old honey to fill up on sheets of fdn., I write to know if I can mix sugar or syrup, about half with the extracted honey, to feed up for winter. WM. M. YOUNG.

Nevada, O., Aug. 14, 1884.

The mixture you speak of will do nicely, of course, friend Y. The only objection I know of is that the honey might be more apt to start the bees to robbing than would the sugar or syrup alone.

VISITORS WHO USE TOBACCO.

Well, Mr. Root, I thought I would come and see your factory; but I got no honey this summer, and turned my attention to something else, and I have been busy; and, come to think of it, I use tobacco, and where would I spit when looking at your bees and in your factory? So I thought I would not go this summer. HIRAM WEAVER.

Circleville, Ind., Oct. 5, 1884.

Don't stay away on account of tobacco, friend W. You know I feel more neighborly toward tobacco-users, if any thing, than toward those who are not; and you may rest assured nobody will be uncourteous on that account. When you are in the lumber-room you can spit in the sawdust, and in the other rooms you can open the doors or spit out of the window. We have lots of windows; and as our rooms are warmed by steam we almost always have one or more of them open for pure air. May be you are giving up tobacco; if so, we might give you a little encouragement and exhortation on the subject.

POISON OAK.

On mention of poison oak by some of your correspondents, you have asked what it is. In the Pacific States the name is applied to the *Rhus diversiloba*, a plant of varied habit, from a low, copse-like bush to a tall climbing vine, like the Virgina creeper. The three-palliate and diversely shaped leaves turn red in autumn, and give about the most showy leaves that California can boast of in that line. Its closely related species, *Rhus toxicodendron* of the Eastern States, is called poison ivy. It does not attain such size. Both are poisonous species of sumac. I have known some who are so unfortunate as to be affected by touching it, brushing against it, or even taking the breeze from it, the symptoms being a severe itching and burning of the skin. Others can handle it with impunity. I have seen bees work on it, but not to any great extent. A. NORTON.

Gonzales, Monterey Co., Cal., Sept. 15, 1884.

WHERE DID THE HONEY COME FROM?

We have had a drought here of about four months' duration, and bees have been idle for some time in consequence. About a week ago we had our first shower (a rather light one at that), followed by a foggy, damp morning, and my bees came in so heavily laden that a great many would tumble in front of the hives and go in on foot. Do you think it was honey-dew they were working on? and if not, what was it? M. BROUS.

Gonzales, Texas, Oct., 1884.

I should say, my friend, from the way you state it, it was honey-dew. By tasting of the honey as it is brought in from the hives you can tell pretty surely.

EXHIBITING AT FAIRS.

Our fair is over; and considering the rain we had to contend with it was a success. My exhibit took the following first premiums: Best specimen comb honey, manner of putting up for market considered; best specimen extracted honey, manner of putting up for market considered; best specimens of comb foundation; best collection of apiarian implements. I received many compliments for the display I made, one of them coming from one of your employes, W. J. Fenton, who is here on a visit.

It is perfectly astonishing, the amount of ignorance that prevails in regard to bee-keeping. It just kept myself and wife busy telling people that the extractor and uncapping-can were not washing-machines nor churns, and that the foundation-machine was not a clothes-wringer nor a sausage-grinder, and hundreds of other things equally ludicrous. But as the Western-Michigan Bee-keepers' Association meets here Nov. 25, and almost every one promised to attend, I hope to be able, with the help of others, to clear up many of the mysteries.

Fremont, Mich., Oct. 6, 1884. G. E. HILTON.

ARE BEES NICER TO LOOK AT IN SPRING THAN IN FALL?

Dr. Smoot says he has two Cyprian or Holy-Land tested queens that produce nice bees in the spring, but late in the fall they produce a variety of bees; some have two bands, some no bands at all, and some that have black tails. Can you explain this?

Fulton, Ky., Sept. 22, 1884. W. J. BROWN.

Friend B., I think the above is all owing to the fact that bees in spring and summer are usually full of honey, while after the yield ceases they shorten up so as to leave scarcely any band visible at all. I have often marked this, and the Cyprians are specially given to lengthening themselves out in proportion to the amount of honey that is being gathered, and *vice versa*. Sometimes in October they look so "stubbied" that one might almost think they had lost part of their bodies.

CYPRIAN BEES HATCHING IN LESS THAN 21 DAYS.

We are not ready for Blasted Hopes yet; although this has not been a good season for honey, I am satisfied when I can get an average of 45 lbs. per colony, spring count. Strange, isn't it? I got over 1100 lbs. of honey from 23 swarms, and my neighbors got hardly a taste, and came to me for honey. Now, I don't like to brag, but I must give facts as they are. I told you last spring that the Cyprio-Italian bees hatched in 18 days from the egg; but you put my letter into the waste-basket. Now, I received the Cyprian queen from you the 23d day of May, and put her in the hive the 24th, and released her the 25th. At that time I gave her a new comb that had not been in a hive for six months. The 27th she had laid some in the comb that she was caged on that had brood in the 28th. She had laid the new comb full of eggs, and on the 30th I gave the new comb to a queenless colony, and the 13th of June the young bees were hatching, and some, I think, had been out 10 or 12 hours. Now, don't pass this by unnoticed. You can calculate from the above date, that the queens hatched from said comb in 12 days. If you want it, you can have my affidavit to this effect.

WM. MALONE, 23—37.

Oakley, Lucas Co., Iowa, Sept. 26, 1884.

Under very favorable circumstances, worker-bees sometimes hatch out in 20 days; but the matter has been so frequently tested by careful records that I can not but think you are mistaken somewhere in your statements or in your count, friend M., when you say they may hatch in from 12 to 18 days. Many points are coming to light in bee culture that look almost like miracles, it is true; but I should sooner think the bees took out the eggs, for some reason, and put in larvæ several days old in place of them. Yes, I should sooner think they stole it from other hives, and brought it in, than that it was a possibility that a perfect bee could be matured from the egg in 12 days. Thousands of us have counted the period, and the agreement is so general that we do not see how we can be mistaken.

HONEY FROM THE VINE MAPLE.

I send you a sample of vine-maple honey by mail; and if you receive it all right, please let us know through GLEANINGS what you think of it. The vine maple is most common in low grounds and along the streams, and is, I believe, peculiar to this coast; it sometimes runs along on the ground, but more commonly grows nearly erect with crooked body and crooked, drooping limbs. It grows to the height of 10 or 15 ft., and is rarely over 6 inches through at the stump. I inclose a leaf of vine maple.

This has been a very poor season for bees in this part of Oregon; there has been no honey-dew, and elk-weed yielded but little honey. Many bees have starved already; mine did as well as any that I know of, and I got but a small surplus, part of which was from vine maple, which blossoms about the middle of April, and continues in blossom three weeks. M. E. WARREN.

Eagle Creek, Oregon, Oct. 8, 1884.

Many thanks, friend W. The honey is dark in color, but of a beautiful amber, and is to me most delicious. A pitcher of ice-cold milk on a cool morning, with half a loaf of bread, and butter from a Jersey cow, with vine-maple honey, a good lot of it, would be my idea of a breakfast. After breakfast I should be all ready to drain off swamps, or any other kind of hard work.

JUVENILE HONEY-THIEVES.

Inclosed find a cutting from the Oil-City *Derrick*, an account of depredations of boys about 10 or 12 years old. T. F. SHEPHARD.

Franklin, Pa., Sept. 29, 1884.

The story of the juvenile burglars which was told in the papers a few days ago is eclipsed by the daring of the little rascals who stole the honey, and wrought ruin among the bees of Mr. Shephard in the Third Ward. They had only the cops to contend with, while the Third-Ward boys had to keep an eye open for the officers, and fight a battle at the same time with the enraged bees whose home they were despoiling. Notwithstanding all the difficulties they were obliged to contend with, they succeeded in getting all the honey they wanted, destroying totally one colony of bees, and setting the others to robbing one another, and the result is likely to be a total loss of all the bees Mr. Shephard owns, which have cost him much time, labor, and money. The boys operated with a long pole, sharpened to a point at one end. With this they knocked over the hive, and then fished away the well-filled combs of honey with the sharpened end. Mr. Shepard has procured the names of the little desperados, and of course their parents will have to make good the damage; but it will no doubt cause a closer looking after the children on the part of their parents, and an effort to know their whereabouts at least once every twenty-four hours.

Friend S., the trouble with these boys is ignorance. Let us strive by every means in our power to give them to understand how much damage they do by thoughtless acts like these, and let us also back it up by insisting that the parents make good the entire value of colonies so damaged. Such instruction as our Sunday-schools furnish from God's word is the great remedy needed throughout our nation. If such boys are hunted up, and invited to come, they will very often expend their surplus energy in doing good somewhere, and enjoy it ever so much better than robbing bee-hives.

WATER FOR BEES IN WINTER; WHY DOOLITTLE LOST SO MANY.

So far I have not noticed that any correspondent has given an opinion in regard to what caused the great loss of bees, an account of which Mr. Doolittle gives on page 371, current volume. I will give it as my opinion that they died of thirst, and that those clouds of vapor rolling away carried off the moisture that, without artificial heat, would have remained in the room, and have saved them from perishing of drought. I believe it is a well-known fact, that the lower the temperature of the atmosphere, the less vapor it carries, and I think in this case the heat from the stove increased the draft and desiccated the already very dry air to such a degree as to cause their destruction. It is my opinion that, had they been supplied with water, the bees would not have perished.

Some twenty years or more ago, a case somewhat similar came under my observation. A friend of mine, Mr. T. F. Landis, living near Scottdale, Westmoreland Co., Pa., undertook to winter a lot of bees (kept in the old Quinby box hive) in a cellar behind, but on the same floor of a basement kitchen, by which, I believe, the temperature and hygrometry of the said cellar were affected; but to what extent I am not able to say, as no measurements were taken. Some time during the winter the bees became restless, and commenced leaving the hives in such numbers that he became alarmed about it, and, not knowing what to do, he wrote to Mr. Quinby for advice, who suggested that they might be suffering from thirst, and advised him to try giving them water, which he did by sprinkling, and introducing little troughs between the combs of the inverted hive. They then became quiet, and gave him no more trouble. MILTON HEWITT.

Perryopolis, Fayette Co., Pa., Oct. 4, 1884.

No doubt, friend H., bees sometimes die for want of moisture, and I should think it much more likely to happen where artificial heat is employed, for the reason you suggest. Under ordinary circumstances, I believe it has been pretty well decided that it is not well to offer bees water in winter. Those that Prof. Cook furnished with water by way of a test did not winter nearly as well as those left to themselves.

SOWING SEED FOR SPIDER PLANT IN THE FALL.

I see some of your customers don't succeed in getting many plants from the spider-plant seed. Advise them to sow their seed in the fall or early winter, and I think they will meet with better success. From half a pint sown last fall I could have transplanted 2500 or 3000 plants, but planted only 1000, for the want of land, while from a pint sown this spring I did not get a single plant.

HONEY FROM THE COW PEA.

My bees are storing honey at present from the cow pea. There is over one hundred acres within a mile of my apiary. E. W. STAYTON.

Martin, Tenn., Sept. 2, 1884.

Thanks for the suggestion, friend S. I can accept it all the more readily, from the fact that the spider plants come up every season all over our grounds. Even during this bright fall weather they came up and grew with astonishing rapidity, showing that they do much better during cool weather than during the excessive heat of the summer. I presume they might be hardened by gradual exposure, like cabbages and lettuce, so as to be started quite early in the spring. They might by this means, I think, be made to bloom in June, and from that clear on to October. During this 18th day of October ours are furnishing more bloom and more honey than at any time during the summer.

DEAD BEES AROUND THE HIVES AT THE APPROACH OF COLD WEATHER.

Do bees die off more about the hive on the approach of cool weather? Is it the old ones that chill and get weak, or can it be the eating of granulated sugar? I have fed them strictly upon it for two months, and have developed from one to five during the time, including the two queens and nuclei we bought from you, so you see we have made a wonderful growth. There are now many combs entirely solid with sealed brood. I estimated some frames the other day by counting the cells, and there were about 4000 bees in some single combs.

New Vienna, O., Sept. 19, 1884. T. NORDYKE.

Friend N., bees are dying from old age and other causes every day; but when the weather is warm they usually fly away from the hive, and are not noticed. When the weather gets too cool for them to fly they simply crawl out and die around the entrances, or are brought out. This is what you see, I suppose. When a spell of warm weather ensues, the live bees often gather up these dead bodies about the doorway, and carry them off, as you will see if you watch them. Even a handful or two of dead bees around the entrance during the approach of frosty weather indicates nothing amiss.

WHERE DO BEES GET THE MATERIAL FOR THE CAPPING TO BROOD?

Will you please explain what the bees use to build natural brood-comb? and what do they get the cappings from? We should also like to hear how our friends get along who moved to catch the basswood-bloom. C. F. UHL.

Millersburg, O., Aug. 13, 1884.

Friend U., I can not answer your question. It has been suggested, that where bees are found working on the surface of mud left from stagnant pools, that they get a sort of fibrous vegetable matter they use for this purpose. It seems to be a sort of paper-like substance, not unlike the material of which wasps make their nests, and this paper substance is worked up with wax so as to make a very tough and leathery material. The capping of a queen-cell illustrates it well. Now, who can tell us where it comes from? It does not grow out of their bodies as wax does, we are pretty sure, and so it would seem pretty likely it must be gathered somewhere. May be they scrape the sides of wooden hives for the fiber. When bees are not very busy in the fields we often see them on the outside of the hive, and on the alighting-board, put their mandibles down on the wood while they work backward with a motion something like a group of men raking hay. I should conjecture they might be gathering this fiber at such times, only they use the most fiber while they are rearing brood largely, and this would bring a great consumption at times when no bees are ever seen standing on the outside of the hives. Is it not possible that the fiber contained in the pollen they gather supplies this substance?—In regard to the basswood-bloom, we have given all the reports we have received, relative to it. We shall be glad if those who have tried it will tell us about it, even though the venture was not a paying one.

INTRODUCING QUEENS BY THOROUGH SMOKING.

Her "Royal Highness," with her attendants alive and well, arrived promptly, and was introduced to her new subjects the same evening, according to a plan recently suggested by J. E. Pond, Jr., which is, simply, to give the colony a smoking and allow the queen to run in at the entrance. All went well, and she commenced business immediately, and on the second day following I found eggs in the cells.

New York, Oct. 2, 1884. CHAS. E. OAKLEY.

Friend O., are you sure the bees would not have received the queen without any smoking, or any thing of the sort? A great many times, queens may be turned loose without any precaution, as I have before told you, and proven by many experiments. It is true, however, that where bees attack the queen, and seem determined to kill her, they can, by vigorous smoking, be made to let go, and behave themselves. We often make them receive queens from the lamp nursery in this way.

WHAT AILS THE BEES?

I started with two hives of Cyprians the 5th of March, 1884; increased to 10 by swarming. I bought one hive of blacks; got one swarm, which is 12 in all. I have taken about 30 lbs. of honey; could have taken more, but had no extractor. I would not cut out my combs. I intend getting one next year. My bees have done nothing for 3 months. I have lost one of my best hives and a fine queen, and half of the bees of one other hive, and a slight loss out of two other hives. They had plenty of stores, honey, and pollen. They would get past flying, and would crawl out and get as far off as they could. To-day they seemed to be a good deal longer than their right length, and would drag themselves on the ground, and had a sort of twitching. I think it is the pollen they have eaten. I pulled a great many apart. I find a brown substance that looks like pollen. What do you think is the matter with my bees? I have an A B C book, and take GLEANINGS. I am delighted with the Home readings. I like to work with my bees better than any thing.

Manchaca, Texas, Sept. 25, 1884. J. H. MARROW.

Friend M., I can not tell you what is the trouble, unless the bees have been getting something that proves to be unwholesome for them. I do not think it is pollen. Where the abdomen is elongated, as you state, you will generally find the contents about as you describe it. The twitching you speak of is much like that described in the A B C book, near the close of the item, "Bee Diseases," but they are not swollen and elongated, as you state.

SEPARATORS OR NO SEPARATORS.

The *A. B. J.* for Oct. 22 contains a very full report of the North-American convention in Chicago. As so many take both journals we shall not copy it here, with the exception of a paragraph from the editor of the *A. B. J.*, in regard to separators. It seems to me it is a pretty good summing-up of this vexed question:

> From the appearance of some of the honey on our market, I must say that many who do not use separators *ought* to use them. A bee-keeper and myself visited a commission honey-house on South Water Street, in this city, and while there we saw a clerk showing a customer some comb honey. With his hatchet he pried loose a cover of a crate, and, grasping a section near the center, drew it up. As he did so the comb scraped against the adjoining combs, and, instead of coming to view as "a thing of beauty," it came up dripping, dauby, and disgusting. As long as there are so many careless bee-keepers it seems unwise to discourage the use of separators. If a bee-keeper can secure straight, neat combs without separators (and I must admit that some of them do), well and good; if not, use them by all means.

WHAT TO DO WITH EXTRA CATALOGUES WHEN YOU GET THEM.

Mr. Root:—You have sent me four or five extra catalogues for my friends. I sent for one a short time ago, but did not get it. I will explain about the extra ones you sent. I never destroy one, but give them to some friend as soon as I get a new one. I gave the extra ones away, and four of my friends have gone into the bee business, and three of them (with myself) sent you an order for $15.00 worth of goods in May or June, in the name of Thomas Croacher, and two of them are talking of getting an extractor for next year. If all of your catalogues sent out brought such returns you would have to build another large factory. One of the parties and myself bought an extractor last winter of you, and use it together; we like it very much. This is a poor year for honey in these parts—cold and rainy all the spring and summer; splendid flow the last six weeks—goldenrod and sumac, so the bees will have enough to winter on, and a little to spare.

New Bedford, Mass. W. H. Nelson.

The Philadelphia *Weekly Press* discourses thus:

CONTENTMENT AND BEE-TENTS.

> "Have a *bee*-tent and be *con*tent." This is about the way Professor Cook would put it if he desired to make so confused a statement of fact. We should wish to have the tent made of heavy, seamless leather, and the hives smoked for about a fortnight before venturing to stir up a swarm of bees. When a bare-footed boy we could step on more bees, hornets, and wasps to the mile than any one else in all the country round about. A prolonged sting will neutralize the sweetness of a large amount of honey. But all this diversion is not without its point. Bee-keeping is now a fine art, and the most timid may practice it with safety. Now is the time to look into the so-called mysteries of honey-farming.

It seems to me our friends of the *Press* are a little afraid of bees; but as their point is a good one, we can afford to forgive them.

SORGHUM OR HONEY-DEW—WHICH?

As I am an A B C scholar, I must ask questions. First, my bees are filling every thing, and there is nothing for them to gather—not even bug juice (for it has been raining for some time), unless it is sorghum. There is a mill half a mile from my apiary, and the bees just swarm around it. The honey, or stuff, whatever it is, is quite thick, and tastes quite pleasant. Now the question is, Will the bees winter on it, if well packed in chaff? I am feeding outdoors with inverted fruit-jars, trying to keep them from the sorghum-mill, but they will go.

Waldron, Ind., Sept. 26, 1884. D. F. Boger.

Friend B., I am inclined to think the substance is honey-dew, for I never knew bees to get sorghum or cider, or any thing of that sort, in sufficient quantities to fill up every thing, as you state it. If the substance is thick, as you say, and not unpleasant to the taste, I am inclined to believe it will winter them all right in chaff hives, although I may be mistaken about it.

SWARMING WITHOUT A QUEEN.

As the subject of bees swarming without a queen is up, I think it will be in order for me to report my experience, or what some might take to be an experience. I contracted with a neighbor for all the swarms he would have, last spring. One day he sent me word that there was another swarm for me; and when I went after it that night he and his wife told me it was larger than the others that I had got. Of course, I was pleased; but when I went to set it on the wheelbarrow I thought it felt light, but said nothing about it. So when I got home and examined them and found about half as many bees as I had been getting, I did not know what to think about it, for I regarded my neighbor as being truthful. The next day, however, he came to let me know that another swarm had issued from the same hive. It was about the size of the other. I then concluded that, after the first swarm was hived, the queen and part of the bees returned to the old hive, and tried it again the next day. To prove it I gave eggs (they had none) to the first swarm, and they started queen-cells. Hugh L. Lynn.

Glenville, McLean Co., Ky., Oct., 1884.

Bees sometimes swarm without a queen, friend L., or the queen may be for some reason unable to go along with them. In this case they will either return to the hive in a body, or go back gradually, a few at a time. In the case you mention, perhaps they did the latter way. There is a good moral here: Circumstances seemed very much against your neighbor, and his wife too; but by waiting a little you found out they were both innocent of selfish motives in telling you the swarm was larger than any of the others.

FOUNDATION MADE IN THE WINTER.

Would fdn. now made, in your judgment, be as useful for next season's work as that made next spring? Plainly, I am generally so engaged as to have no leisure, save occasionally in winter evenings. I could then dip sheets and make fdn.; but if it would not answer all the purposes intended I should not want to waste the time. Then I thought I could fasten fdn. in sections, and have them all ready. I have had fdn. two years old (only a few sheets) that worked out very nicely, the same as freshly made goods, as far as I was able to judge; yet my own experience is so small that I thought a word from you might set me right. Any thing you may tell me, giving light on this, will be a favor for me. E. D. Heckerman.

Bedford, Pa., Oct. 21, 1884.

Friend H., there has been a good deal of discussion in regard to this matter of foundation a year or more old. The only cause for objection to fdn. that has lain over, that

I have been able to discover, is, that if sheets are exposed to the air, the surface of the wax becomes comparatively dry and hard. Very likely the bees will not take hold of it as well as that freshly made. If, however, the fdn. is kept shut up in a box, or tied up closely in a paper wrapper, I think it may stand any number of years, and be just as good as when made. There are almost always some sheets of comb not entirely built out when the season closes, and the bees take hold of these and finish them just as well as any, so far as I can see. Sheets of fdn. should never be left scattered about where the sun and wind may dry out the oily portion of the wax; but where it has been so exposed, D. A. Jones suggests immersing it in water as warm as the wax will bear will restore it at once to its original softness. I should by all means make up all my fdn. during the winter—that is, provided I had leisure time at this season, as most bee-keepers have.

A GOOD REPORT FROM THE HOLY-LANDS.

I should like to know why D. A. Jones has "decided to drop both Syrian and Holy-Land bees," as you state on p. 660. I have one thing against Holy-Land bees — the queens are too "awfully" prolific. We live on a point on the shore of Lake Erie, where our bees have only one way to go for honey. Ten years ago our black bees averaged 20 or 30 lbs. of extracted honey per colony. Then we got the Italians, and they would average 50 lbs. per colony, of extracted honey, in good seasons. Two years ago this summer we got two choice Holy-Land queens from Mr. D. A. Jones's island-bred queens. We have one of those queens yet, from which our apiary is stocked, mostly crossed with Italians, and we have colonies that gave us over 100 lbs. this summer.

Low Banks, Ont., Oct. 18, 1884. **ILA MICHENER.**

HONEY FROM THE POPLAR; A TEASPOONFUL FROM A SINGLE BLOSSOM.

Bees wintered last winter very well. As far as I can learn, about 10 per cent were lost. The first pollen was gathered Feb. 19, from dandelion. The oldest bee-men do not remember when pollen was gathered so soon in this State. I never saw such a crop of wild dandelion. Some of the fields were almost covered with the yellow bloom. The bees gathered honey from it in April. The sugar-trees furnished more honey this year than I ever knew them to before. The honey from fruit-bloom was light; but when the poplars opened, the first of May, there was a boom for certain. Honey from that source lasted eight days longer than I ever knew it to before. I saw single blossoms that contained a teaspoonful of honey, and in the evening at that. I have read about poplar-blossoms containing a teaspoonful of honey, but I confess I thought it was exaggerated. I think fully four-fifths of the poplar honey was lost for want of more bees to gather it. White clover and basswood were almost a total failure.

GOOD HONEY FROM APHIDES.

The honey produced by aphides was wonderful. It was mainly found on pear-trees. In fact, I didn't see any on any thing else, but some of my neighbors saw it on the white-oak leaves. It was so abundant on the pear-trees that it would drop off in such quantities as to stand in little pools under the trees, and continued so for three weeks or longer. The leaves of the trees were so exhausted by the aphides that they turned black. Honey from this source was not general, but confined to localities. The honey was whiter than poplar honey, and equal to it in flavor. I gave Rev. Mr. Rippey, our minister, several pounds, and he thought it the best honey he ever saw. My product was 60 lbs. per colony. My best colony gave 100 lbs.; my weakest one, 25 lbs. Surplus honey, all comb honey. The average yield in this State, so far as I can learn, is about 20 lbs. to the colony. I did not get any natural swarms. I have heard of but four natural swarms in this county. **L. H. WILCOX.**

Farmington, Marion Co., W. Va., Oct., 1884.

Friend W., I am very glad to hear that this statement regarding poplar is indeed so. I, like yourself, feared it was an exaggeration. I am glad to know, too, that some of the honey from the aphides is fit to eat. Professor Cook intimated as much, you know; but I am sorry to learn that there is a prospect of aphides doing much injury to our fruit-trees. Your report is pretty fair, but you did not tell us how many colonies you keep.

FELON CURES—IS IT THE TURPENTINE OR TURNIP, OR BOTH?

I am young in bee culture, but old in the practice of botanic medicine and hygiene,—using such medicine, modes, and means, as will assist Nature in removing disease and restoring natural action to any part, or all parts of the human system. Having, while young, learned the properties and use of most roots, herbs, barks, water, vapor, fresh air, light, and electricity, I have never had any use for the "Regular" depleting and poisoning system of treatment.

Will Mr. K. (page 673, Oct. GLEANINGS), chew a little of a green wild turnip, and then say "that no turnip has any thing to do with the cure"? While quite young I used to make a salve of equal parts of lard, fresh wild turnip, and swamp-hellebore roots, that would stop the pain and cure the felon. My mother used to keep and use spirits of turpentine as a "cure all." I have used it for felons and other forms of disease with success. I believe I was the first, many years ago, to stop the pain and cure a felen with lobelia. In my next I may tell you how it saved my life while in the army. Also my experience with bees and honey on the march through Georgia.

Surplus honey has been almost a failure with many here this year. **D. TYRRELL, M. D.**

Toulon, Stark Co., Ill., Oct., 1884.

Thank you, friend T. Since you speak of it, I do remember that the Indian turnip has energy enough to bring tears to the eyes of any one who may be daring enough to taste it, so no doubt it helps. We all know that many kinds of aches and pains are cured by a liniment that will attack the skin with sufficient energy to make it smart briskly. Toothache may often be cured by holding cayenne pepper on that side of the mouth. Very likely two substances that are both good might do still more good if used conjointly. So here is the secret of this felon cure—two good remedies used together. Perhaps it may be well to bear in mind that this felon business is a little out of place in a bee-journal. The proof-reader suggests, however, that it is not, when "you have got one."

QUEENS BY MAIL IN COOL WEATHER—A TIMELY SUGGESTION.

I would say to all persons who receive queens through the mail in cool weather, to be careful to warm up the queen and bees when they are received in a numb state, as they are often numbed in the mail, even before you receive them during cool weather. They are not dead every time that you think they are, from being numbed in the mail-bags, as parties will find out if they will warm them up by holding them where the heat from the fire will fall lightly among them—not too much at a time. It is well to follow this plan early in the spring and late in the fall, always when queen and bees appear to be dead. I have thawed up several queens and introduced in cool weather after they looked to be dead. A. L. SWINSON.

Goldsboro, N. C., Oct. 25, 1884.

Thank you, friend S. Since you speak of it, I do not know but it would be well to have something like the above printed on a slip, to go with all queens sent after, say, September and October. We have abundantly proved that the chilling does them no harm, and an inexperienced person would be very apt to call them dead when they are only benumbed with cold.

HOW TO GET ALL THE HONEY OUT OF THE COMBS.

I can tell how to extract all the honey out of the combs. The way I do it in the fall of the year, I take out what will come out, then let the combs stand one week, and extract again. It will come out then. The air makes the honey thin in the combs. I have a cellar under my extracting-room. I leave the door open so I get the damp air from the cellar. The damp air will make it thin quickly.

FROM 102 TO 118, AND 3000 LBS. OF HONEY.

I had 102 hives in spring; I have now 118 hives; got honey enough to winter on, and 1000 lbs. comb honey; extracted honey, 2000 lbs.—3000 in all; good for such a poor season. They worked on buckwheat better than I ever knew them to before.

Amity, N. Y., Oct. 8, 1884. J. W. UTTER.

No doubt, friend U., you get pretty much all the honey out in the way you suggest; but I for one do not believe I should want the damp air of the cellar, nor, in fact, dampness from anywhere, mixed with the honey I expected to eat or furnish to anybody else. Thin honey always comes out easy; but, dear friend, it is this same thin honey thrown on to the market that has in many localities ruined the sale of extracted honey.

A GOOD REPORT FROM THE CARNIOLAN BEES.

Five years ago I imported two very fine queens of the above race. I found them to be all that Mr. Benton now claims for them. The queens were very large, prolific, and the workers the most gentle of any race we have. They are fine honey-gatherers, and a splendid race of bees generally, with the exception of one thing—they are the most inveterate swarmers I ever saw. They will swarm as often when no honey is being gathered, as when the flow is at its height. A description of these bees can be found in "The Bee-Keeper's Handy Book," page 144, under the head of "Hungarian Bees." I fear this race of bees will not be adopted generally, on account of their color. Most bee-keepers have an idea that the bees are similar to the Italians in color. They are not. They are a whitish or grayish color, and, when old, resemble the common black bees very much. HENRY ALLEY.

Wenham, Mass.

TAKING COLONIES THAT ARE TO BE BRIMSTONED, AND FEEDING THEM UP IN THE FALL.

I commenced the season with 3 weak swarms, and increased to 16 by starting nuclei and giving them queens. I had 170 empty combs to give them, and have 140 for next year's increase; got about 500 lbs. of honey. I got 13 swarms from my neighbors, who brimstone their bees. I take the bees, and give *them* the honey. I doubled up the weak ones down to 8, transferred all the brood and empty comb, and gave them $6.00 worth of sugar, and filled up the hives with combs from the others, giving them one comb each, full of honey in addition, and I think they are in better condition for wintering than all the others, as the feeding kept them breeding later than the others, and I am inclined to think that it is the late breeding in those that are fed that makes some people think that sugar is better than honey for wintering. JOHN MURRAY.

Woodman, Wis., Oct. 11, 1884.

I think you are right, friend M., in thinking that colonies fed up on sugar winter better than those on natural stores, providing it be done early enough, and the colony be strong enough to "master" the feed and get every thing in good shape for winter. What I mean by "mastering" feed is to be able to cover it so as to ripen and seal it up thoroughly. If you overload a weak colony with sugar syrup, or even honey, they will put it all around on the outside of the cluster, anywhere to get it out of the way, then it is liable to become damp and moldy, and sometimes a little rancid, or something of that sort. In such a case the bees get damp, and dysentery often sets in, because there is too much cold thin syrup, and too few bees to warm it up. With a hive boiling over with bees they would dry it all out and evaporate and seal it up; or if the same quantity had been given to a weak colony at intervals during warm weather they would probably get in good shape and winter all right. If any of you have colonies with lots of unsealed syrup, and but few bees, the remedy is to double them up—giving them the best combs from the two.

NOTES AND QUERIES.

GETTING BEES TO START WITH, FROM BEE-TREES.

BEES did finely last spring, but have suffered much from the drought during the last 3 months. The woods were full of bee-trees this spring, and they were very rich; but the bees nearly all died which were saved out of those bee-trees. HERMAN FUCHS.

Tiger Mills, Tex., Sept. 27, 1884.

[Friend F., the bees from bee-trees are just as good as any, if they are put into hives in time so that they can get properly fixed for winter. Where the woods are full of bee-trees there certainly must be a good locality for honey.]

BEES AND MOSQUITOS IN FLORIDA.

I hived the largest swarm of bees that I have had this year, about a week ago. They are doing well, so you see our bees down here are getting ready for work, while you are preparing for winter quarters. It is almost as good here for bees as it is for mosquitos. W. J. D.

Lavasota, Fla., Sept. 8, 1884.

QUEENS FROM FRANK BENTON.

I, also, received one Cyprian queen from Frank Benton, Munich, Germany, by express, after 22 days' confinement. Queen is in good condition, and now laying; 12 bees dead in cage; candy one-third consumed; honey three-fourths consumed; no water in cage, and honey partly candied. I think the dead bees in cage were stung to death, as I saw one dying which acted like it. SAMUEL HEATH.

Rimer, Pa., Sept. 27, 1884.

QUEENS FROM GERMANY TO OREGON.

As we have just received two queens (Italians) from Frank Benton, Munich, Germany, I thought it might be of interest to bee-keepers of the Northwest if it were reported through GLEANINGS. Both queens were O. K., and 8 dead bees in one, 18 in the other cage. They came through by express. Charges from New York here were $1.00. They were started the 18th of Sept., and received here the 25th. The candy was about half used. C. RUSK.

Milwaukee, Clackamas Co., Oregon, Sept. 28, 1884.

BEE BOTANY,

OR, HONEY-PLANTS TO BE NAMED.

HAWKWEED.

I SEND you a package of flowers for a name. I find it to be the best bee-plant that grows in this section of country. On the little bunch I send I counted 50 bees a mile from home. There seems to be a hive turned loose in the patch. It grows about 8 ft. high. JACOB KENNEDY.

Mont Clair, Hendricks Co., Ind., Sept. 8, 1884.

This specimen is Canada hawkweed (*Hieracium Canadense*, Michx.). This was an unusually large specimen. It is a perennial, with a stout, more or less pubescent stem, and large coarse leaves; flowers yellow, drooping, in axillary and terminal panicles; in dry woods in Northern U. S., and northward. It is probably visited by the bees more for the abundant pollen than for honey.

Columbus, O., Sept. 13, 1884. W. STOW DEVOL.

BUTTONWEED.

Please tell me the name, and what you think of this weed or grass as a honey-producer? It grows everywhere here, and the bees work on it some.

Sonora, Ky. TOM PHELPS.

This is *Diodia teres*, Walt., known to some as buttonweed—a member of the Madder family. It is a small branching plant, the brownish stems growing 5 to 18 inches long. The leaves are about an inch long, with one vein, opposite on the stems, and joined by stipules furnished with slender brownish hairs. The flowers are borne in the axils of the leaves, one to several in each axil; they are small, white or reddish, broad-fanned form. This plant is quite common in the sandy fields of the South, and have been found as far north as Illinois, but I think it has never been reported as occurring in Ohio.

Columbus, O. W. S. DEVOL.

REPORTS ENCOURAGING.

400 LBS. FROM A SINGLE COLONY IN ONE SEASON.

MR. Killough extracted enough lately from the one hive he had kept without increase, to make its yield over 400 lbs. of splendid honey. It was ordinary in spring, and made its comb for 2 of the 3 stories without even starters. A. W. BRYAN.

San Marcos, Texas, Sept. 20, 1884.

MY REPORT FOR THIS YEAR.

18 galls. extracted honey and 200 lbs. comb. I had 10 colonies in spring; 16 now, all in good shape; chaff on all of them. JOHN DAVIS.

Allison, Lawrence Co., Ills., Sept. 26, 1884.

A GOOD REPORT FROM ONE OF OUR "INDIFFERENT" IMPORTED QUEENS.

Your "indifferent" imported queens are producing the finest-looking and finest queens every way we ever had. A. W. BRYAN.

San Marcos, Texas, Sept. 20, 1884.

20 GALLONS OF HONEY FROM 2 COLONIES.

I have only two hives of bees; have extracted 20 gallons this season so far, and a few sections of comb honey. I am using an extractor I ordered from you in 1878; it is all right yet. J. C. SMYKIE.

Caseyville, Miss., Oct. 7, 1884.

FROM 15 TO 18, AND 750 LBS. OF HONEY.

My 15 stands of bees increased to 18, and made me 750 lbs. of honey, all in the combs; 3 made me nothing; 1 made 105 lbs., and two 65 lbs. each before harvest; since then, nothing.

LEVI J. HARTONG.

Inland, Summit Co., Ohio, Sept. 18, 1884.

MY REPORT.

From 5, spring count, I have taken in 1-lb. sections, 300 lbs. of honey, and increased to 13, and they are all heavy with stores for winter. I have taken from my best colony (a new swarm of dark Italians) 76 lbs. My honey is mostly made from buckwheat and heart's-ease. A great many of my neighbors have not got any honey with bees in box hives. I have sold most of my honey at home, at 15c per lb.

GEO. L. JONES.

Grand Ridge, Ill., Oct. 9, 1884.

FROM 50 TO 79, AND 4000 LBS. OF HONEY.

I never had any bees in as nice shape for winter at this time of the year as they are now. Queens are laying in nearly every hive. I started with 50 colonies in the spring, and increased to 79; have not got all of my honey off yet, but I shall have nearly 4000 lbs., about 1500 lbs extracted and the rest comb honey. If I could get any thing like a fair price for it, I should feel pretty well paid for my trouble. I have sold only about 800 or 900 lbs.

Tampico, Ills., Oct. 6, 1884. E. A. EMMONS.

FROM 3 TO 21, AND 330 LBS. OF HONEY.

The luminous match-safe has turned up at last. It was found in the honey-extractor. I hand you my first report. Last spring I had 3 colonies; increased to 21 by artificial swarming; have taken 330 lbs. honey, mostly extracted; sold honey at an average of 12½ c. per lb. I have tried nearly every plan that I could think, and have made, perhaps, a hundred blunders; but considering that, when I commenced last spring, I had never seen a queen nor a drone, and did not know an Italian bee from a yellow-jacket, nor a black bee from a tumble bug, and when I began to read GLEANINGS, etc., they were all Dutch to me, I feel very well satisfied with my success. C. S. DOUBLEDAY.

Hamilton, Texas, Oct. 1, 1884.

Well, friend D., if you *did* make a hundred blunders it seems to me you made success enough to atone for them all, if you have made such a result as this. Even if you do not winter more than a fourth part of the 21 colonies, you have done pretty fairly, even then, unless the labor needed for such an increase counts up expensively. The above also illustrates what energy and zeal will do for an A B C scholar in one single season.— If you had heard our clerks declare they *did* send you the match-safe, when you said it was not there, may be you would know how they feel when they are accused of omitting articles from their orders.

REPORTS DISCOURAGING.

BEES have gathered no honey since July, in this section, the season of the year that is usually the very best. I never knew bees to meddle with grapes, or rotten apples, before. We shall have to feed or brimstone them to get any thing out of them. C. R. MILES.

Pawnee City, Neb., Sept. 21, 1884.

Bees have done no good in this section this year. This is the first failure since I have been in the business, six years. B. D. SIDWELL.

Flushing, Belmont Co., O.

I am ready for the back side of Blasted Hopes; 30 hives, and not a pound of honey, nor a swarm this season. R. W. PERKINS.

El Dorado, Kans.

I am in Blasted Hopes this year, as my 16 swarms of bees have not made 50 lbs. of honey; all of the honey I *did* get was ⅔ locust honey that was as fine as any I ever had. The season was too wet.

MRS. H. L. OSBORN.

Stoughton, Wis., Oct. 1, 1884.

REPORT FROM UTAH.

I thought a few items from this place might be of interest to the readers of GLEANINGS. Our prospects have in part been blighted this season, owing to the caterpillars and worms poisoning the honey-producing plants and flowers through the summer season, although the bees have been able to keep the wolf from the door of the hive. Our autumn season has not been so nice as in former years, having been rain and snow alternately for the past month, so that the bees have been confined to their hives, and no doubt have consumed quite a quantity of honey that should have been used in the winter. We may have to feed, but it will not be any more than we have done, only the other way we used to feed ourselves from the bees, but we shall have to change about and feed them, if we find them short of supplies. I did have 3 bottles of honey in my window for sale this season, but there was such a demand I was not able to sell any more; had I had 1000 lbs. with the label "Pure Honey," I know I could readily have sold it all. Our report for the fall of 1884 is as follows: 851 lbs. honey; 214 swarms of bees; loss 38; increase 15. I hope we shall have a more favorable report next fall.

Tooele City, Utah, Oct. 6, 1884. JOHN DUNN.

REMINDERY.

IF any of your bees are lacking in stores, now is the time to make it good. Don't by any means think of letting them starve while granulated sugar is as cheap as it is now. Our last lot, purchased in New York, cost us only 6¼ cents — a lower price than I ever heard of before. As fluctuations are so uncertain, I should not dare to offer to furnish it for less than 7 cts. We shall feed perhaps five or six barrels to our 250 colonies. Our apiarist thinks the bread-pan feeder is about the simplest and easiest way, although we always feed during warm weather. If you should neglect it until it is late and cool, I think the Simplicity feeder would be perhaps safer. We make our syrup by putting a lot of sugar in the extractor-can; pour in water, and let in a jet of steam until it boils; add water or sugar until a sample of the syrup cooled in a saucer is about like tolerably thick honey. Our bees are all wintered in chaff hives, so we turn back one end of the enamel sheet, exposing all the ends of the frames. The bread-pan feeder is now set close to the opening left, filled with the syrup, when it is just as warm as it can be without scalding the bees. A thin piece of cheese-cloth is then laid over the pan and pressed down slightly into the syrup, in such a way that one edge of the cloth hangs right down on the opening where the bees can come up. If they haven't learned how yet, or if the weather is cool, just drop a little of the warm syrup among them. They will soon boil out and over into the pan; and if they are a good colony they will often empty the pan in a couple of hours. In this way, by repeated filling you can give a colony enough to winter on during 24 hours of mild weather. If your colonies are not all strong, I would double them up pretty well — say until they cover five or six combs pretty thickly. If you lack queens you can put double the quantity of bees in a chaff hive if you choose, but you should feed them accordingly. You can not very well feed them too much, although I would not give more than about 15 or 20 lbs. of sugar, even though the colony should be *very* strong. With a chaff hive, stores of granulated sugar, and lots of bees, there need be almost *no* failure; in fact, I do not know of any kind of farm stock that can be wintered so safely as bees, if you just take the pains. If you are a new hand, better have your colonies too strong than too weak, and you had better give them too much sugar instead of not enough. Do not worry if you do not find any brood or eggs at this time of year, for they are, in fact, better off without these; the same with pollen. If you can get out all the combs containing pollen, to be put back in the spring, when we have settled warm weather, all the better.

STARTING AN APIARY—NO. 3.

SOME WORDS OF CAUTION.

BEGINNERS in bee-keeping are liable to fall into the error of following the methods that have proved successful with some one of experience, and that, too, without stopping to consider whether the surroundings and conditions are the same in one case as in the other. Great confidence is always felt by amateurs, in the successful methods reported by those of large experience, and forget the fact that what would prove the correct thing to do in one locality might be utterly futile in some others. In order to succeed it will not do to follow any method without using judgment in regard to it. It is impossible, owing to differences in localities, to lay down any precise and definite rules to be strictly followed. The books and articles on the subject can only lay down general rules. It is by experience alone that specific methods of management can be acquired. To illustrate: Mr. Doolittle, whom we all know has been a successful manager, lives in a locality where the honey-flow comes only from basswood, and during the period of time between the middle of June and the middle of July, and then as a rule it almost rains honey. The methods that he has adopted, and which with him prove eminently successful, would be of little value in a locality where the honey-flow begins with fruit-bloom in May, and continues till the middle of September, not large at any time, but tolerably constant. In the one case, a large force of foragers is needed at the time when basswood is in bloom, and would prove a loss at any other time by reason of the amount of stores they would consume. In the other case, a large army of foragers should be provided early in the season, in order that they might take advantage of the early honey-flow, and this force should be kept up to its maximum strength in order that no honey-yield should be allowed to run to waste.

In this matter the only safe rule that can be laid down to be closely followed is the rule of being governed by common sense, and experience is the only teacher, though at times the lessons taught may prove somewhat expensive. In order that the best light may be obtained, text-books should not only be carefully studied in connection with experimental work in the apiary, but one or more of the journals devoted to bee culture as a specialty should be subscribed for and carefully read. The text-books give general ideas; the journals give reports from all the various sections of the world, from which reports by careful comparison we can better determine the proper course of procedure than by any other means.

As a matter of fact, a knowledge of the reports contained in the journals is essentially necessary in order to enable any one to obtain any thing like perfection. The science, too, is progressive and progressing; and while text-books grow old, the journals are always fresh and new, and give from month to month a careful detail of the various experiments made here and there; and not only that, they keep us posted in regard to all the various improvements made in hives, sections, and other supplies, and also sound the warning note to every swindle that may be attempted in the way of palming off worthless articles to the unwary and uninitiated.

While it is a fact that speaks well for bee-keepers, that as a class they are intelligent and honest, still, alas! it is too true that there are a few that go around seeking whom they may devour. Many a dollar has been paid for moth-proof hives of no earthly value, that would have been saved by investing a single dollar in some good bee journal.

One thing it will be well for the prospective bee-keeper to do at once, and that is, to procure a complete frame hive, fitted ready for use (except the bees), and practice manipulating it during the coming winter, in connection with the study he may feel like doing. This may seem at first to be a foolish idea; but, my word for it, much can be learned by so doing, and the work of operating in a hive full of bees will be found far easier if preceded by experience in working in an empty hive, than if undertaken without having had any experience of the kind. Open and close the hive often; remove and replace frames and sections till this work can be done, and spaces made perfectly even by the sense of touch, in the dark as well as in daylight. By so doing, confidence will be gained, and a task that otherwise would be deemed quite difficult will be rendered simple and easy. J. E. POND, JR.

Foxboro, Mass., Oct., 1884.

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A. I. ROOT,
EDITOR AND PUBLISHER,
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MEDINA, NOV. 1, 1884.

Then shall the righteous shine forth as the sun in the kingdom of their Father.—MATT. 13:43.

THE rest of the year free to all who subscribe now for 1885.

IF any of you have any nice dried or evaporated sweet corn to spare, you may mail us a sample, and say how much you want for it.

WE have to-day, Oct. 20, 7087 subscribers. We don't get ahead very fast, it is true; but then, you see we don't get back very much either, so we still continue to be thankful on the whole.

RIGHTEOUSNESS.

DEAR friends, the righteous *shall* shine forth as the sun; and they don't often have to wait until they get to heaven to shine, either. They shine right along here in this life every day.

UNTESTED QUEENS FOR OCTOBER AND NOVEMBER.

SOME of the friends in the South should not only be prepared to furnish queens before we can raise them here in the North, but they should be prepared to fill orders promptly after we are unable to rear them here. Our queen-rearing is at an end, and yet orders are coming in at a pretty good jog daily. Now, do not go and send us a lot because of this; but if you have some nice untested queens to spare, tell me how many, and what you will take for them. Last fall, in an answer to an editoral, so many were sent in that we had a dozen or two left on our hands. Suppose some of you put in an advertisement of untested queens for the above months. Sometimes we have quite a little call for them in December. Of course, the better way is to have them go directly from the producer to the consumer.

DISCOUNTS ON GOODS ORDERED DURING THE MONTH OF NOVEMBER.

As business is still quite dull, we will allow a discount of 5 per cent as heretofore on all goods wanted for next season's use. Beeswax is now fully 10 cents cheaper than it was last spring, or has been for several springs past, and the probabilities are that it will advance 10 cts. or more next spring. Now, for orders for foundation till the 15th of this month, we will allow a reduction of 10 per cent; and besides this, the discount of 5 per cent above mentioned. We do this with the view of reducing the quantity of wax we have in stock, and also to avoid the great rush on foundation that comes as soon as the season opens. This offer may be extended through the whole of November, but we would not dare to offer it now until I see how many of the friends take up with the offer. In regard to purchasing foundation now to use next season, see remarks on page 747.

MAKING INQUIRIES OF YOUR POSTMASTER.

SOME of the friends have been very much displeased because we wrote to their postmaster when we could not get any reply from them. Why, my friends, what *can* we do? After writing to a man three times, and no reply, our clerks have an established custom of writing to his postmaster. A great many times we find we have got the man's name wrong; sometimes we are told he is absent, but will return shortly. At another time he or his family have been sick; but it seems to me it would be better in all these latter cases to have somebody to write a postal card for him, when sick or absent; but if you don't do it, I do not see how you can object to our writing to your postmaster. We inclose an addressed postal card to the postmaster, and all he has to do is to pencil briefly on the back of it. Here is a sample of the replies we get from postmasters:

> We have no such person in this city as C. C. Gole. Mr. C. C. Dale formerly lived here, but is now at Rousville, Pa. Respectfully yours,
> Oil City, Pa., Oct. 27, 1884. F. BISHOP, P. M.

FEEDERS FOR FEEDING DRY SUGAR; SOMETHING THAT PROMISES TO BE OF VALUE, FROM OUR ENGLISH COUSINS.

THE matter of dry-sugar feeding has been taken up and dropped many times in years past, and some of you may remember that I was once quite enthusiastic on the subject. In the *British Bee Journal* for Oct. 15, we find something that seems to answer the purpose nicely, and I do not remember that we have had any thing just like it described before. The implement looks very much like one of our wide frames boarded up on the back side, and having a movable side on the opposite. This movable side is made to open as if it were hinged, by means of a couple of wire nails at the lower edge. It reaches within only ¼ inch of the top-bar. This leaves a place for bees to go in. When this lid is opened, the feeder is quickly and conveniently filled with a grade of sugar that is a little damp or moist. The inventor, Mr. Samuel Simmins, says the two boards must be not more than one inch apart, or the bees will build a comb inside. During cool weather the condensation on our enamel-cloth sheets will furnish all the moisture needed. When they can fly they bring water. We extract the following:

> For spring feeding, about the middle of March insert one feeder full of Porto Rico at one side of the brood-nest, and crowd the bees on to it, when they will be stimulated to such an extent that brood-rearing will go on at a rapid pace, while at the same time the bees will not be excited to fly abroad so much as with syrup feeding. Before one feeder is quite empty, insert another on the opposite side; and when an empty one is removed the bees should be shaken out, or it may be placed down at the entrance for them to run in. When the colony becomes very strong, probably two feeders will be wanted full at the same time, but by then honey might be coming in to some extent, and the bee-keeper must proceed accordingly.
>
> For nuclei, this process of dry-sugar feeding is all that can be desired, saving much time and anxiety.
>
> In autumn, for stimulating brood-rearing, proceed as in spring; and when desirable to finish storing for winter, keep at least two feeders well filled, first removing every comb not really wanted.

WHY IS IT?

A GOOD many of the friends complain, that although they advertise for honey, queens, and other commodities, and offer more than we do, people will persist in sending to us; that they are afraid of strangers, etc. I have no doubt this is so, and I think I can explain the reason for it. But you will have to excuse me for saying something that sounds a little like boasting, only to bring out a great truth. Bee-keepers offer their queens and honey to me at a low figure because they have learned by experience that the money is sure to come right straight back. When they send to other people the money does not come right off. I am sorry to say it, but yet there are few large firms, even, who make a practice of paying money right over at once for whatever they purchase, especially when it is something shipped them. In our business this has not been attended to as it ought to be. One of the hardest things I ever tried to do is to get the clerks, shipping-clerk, the clerk who unloads the goods and weighs them, book-keepers, and all who handle goods that come to me, to bear in mind that those who send wax, honey, queens, seeds, etc., are almost always in need of money, and therefore we should use every possible expedition to get it right back as soon as the goods reach us. It seems an easy thing; but, you try it. Not only is it this disposition to let things lie around awhile that stands in the way, but it is not always an easy thing to have money in the bank in readiness; in fact, it costs something to keep a little surplus capital ahead on which you are all the time paying interest; but I tell you, friends, there is nothing in this world that advertises for one like letting people know, that whatever they send you it will fetch the money every time. It is money well invested, I tell you, to keep a little surplus lying in the bank idle, it may be, just to back up your good name. We have not done as well as we might have done in this line; but now when times are dull we are going to work with energy and vehemence to advertise ourselves in just this way. Suppose, now, you start a friendly opposition to us on this line. I assure you I shall not be hurt a bit if a great lot of you come out ahead and do better than I do. Many times the one who sells you produce does not care for his money right off. In that case, of course, it is subject to his order; and I find that nothing pleases a man more than to have you allow him interest under such circumstances, when he did not expect it. If you are already paying interest on borrowed money, of course you can afford to allow it to those who leave money in your hands.

TAKING CARE OF YOUR GOOD NAME.

THERE are a good many this fall who find it hard to meet bills' they expected to pay. Some have been sick when they did not calculate on being sick; others have had disaster—hail, drought, etc., and some have lost their horses and cattle. Now, whatever happens, a man should be careful of his credit. Everybody nowadays almost is quoted, and has standing in community rated. What shall we do when we can not pay? One way is to say you can not pay it, and let the matter drop; or, worse still, make no reply when inquiries come concerning your indebtedness. I hardly need tell you this is a very bad way. "What should a body do?" then, you ask. Why, my friend, get an honorable release from your obligation. Getting a release from a promise is next thing to keeping the promise. Before the money is due which you promise to pay, write to the one you are owing, and ask him if he can not possibly favor you by waiting a little longer. If he agrees to this, all well and good; but if he does not agree to it, you are as well off as before, any way, and have the satisfaction of feeling that you tried to arrange the matter amicably. Now, at this point I would try to find somebody among my friends and acquaintances who would loan me the money for the sake of keeping my name fair, if nothing more. But my experience has been that it is very seldom that a man who tries to be honest, and do right, is not granted the time he asks, providing he is within the bounds of reason with his request. Of course, the most important thing in this matter, *by all odds*, is to be careful about going in debt. If you have not the money to buy what you want, go without it; and if you are one of those individuals who have not friends willing to loan you money when you get into a tight place, *by all means* avoid making purchases when you can not pay cash down. "A good name is rather to be chosen than great riches."

KIND WORDS FROM OUR CUSTOMERS.

The two queens came through all O. K. There was not a dead bee in the cages.
D. W. BARTHOLOMEW.
Bridgewater, Dakota, July 27, 1884.

Please send me $2.40 worth of the Clark smokers. They go off like hot cakes and 'lasses. I got them Saturday night, and are all gone Tuesday.
Butlerville, Ind., May 21, 1884. W. S. TAYLOR.

A KIND WORD FROM A DEAF MUTE.

I felt as if I was on the "Great Desert of Sahara" when I stopped taking your excellent bee-papers.
Indianapolis, Ind., Oct. 12, 1884. C. E. GREGORY.

JUST A WORD FROM FRIEND LANGSTROTH.

Only a few days ago did I see your very kind article in Sept. 15 GLEANINGS. As soon as I recover from an unusually severe cold, I will write to you.
Oxford, O., Oct. 20, 1884. L. L. LANGSTROTH.

OUR 244-LB SCALES.

The 244-lb. scales that I ordered of you came through all right. They are better and cheaper than I expected. Bees did very poorly here this year; it was too dry and hot. I have 90 stands all in good condition. D. PRYOR.
Loogootee, Ills., Oct. 8, 1884.

THE WAY IT PAYS TO BE ALWAYS READY AND WILLING TO MAKE GOOD YOUR BLUNDERS.

Friend Root:—Yours of June 11 is at hand. I will excuse you for the delay; it was quite an annoyance, not getting the fdn.; but as you pay the extra freight, all right. Your letter gave me lots of pleasure, to find one man with honor and Christianity enough to do what is right. I inclose another order. N. H. PIXLEY.
Wamego, Kan., June 17, 1884.

[The friends will see from the above, that we by some mistake of our own caused friend Pixley a vexatious delay, and when we expressed a willingness to make it all right, he replies as above. Does it not really pay us to be always ready and willing to make good any mischief we may have inadvertantly caused?]

EXTRACTORS THAT THROW HONEY OVER THE CAN.

Friend Root:—I received that crate of five smokers, and I was really surprised to find a ring for my extractor. I am very thankful, for the ring fits exactly. I put it on, and have since extracted. I find it just the thing. There is no more honey flying over the top against my clothes. I can go from the extractor as free from stickiness as before I commenced. Many thanks for your kindness. It is really a pleasure to do business with such a man.

I must tell you my success this summer. We had 8 hives of bees in the spring in chaff hives; we got six swarms this summer. Now we have 14. We got a barrel of honey this summer. One of my swarms is in a box hive that did not have any surplus at all, but it gave me two large swarms of bees.

Concerning the chaff hives, I must tell you that they are well pleased with it. There is only one thing that they do find fault with and that is this: They claim it is not filled out as in the contract; that it is to be ready for bees, with starters—that is, comb fdn. in the sections. Of course they are there. But in the lower story there are none, and I think they told me that the division is also lacking. Now, I do not know whether you call it ready for a bee without the comb fdn. starters in the lower story, and division-board; if so, please explain by note or through GLEANINGS. If only narrow strips, say two inches, were in the frames, it would guide them straight. A. H. BAUM.
Ashland, Ohio.

[Friend B., I am very glad indeed to know that the rim answers the purpose exactly. I thank you for the kind words in regard to our way of doing business.—The hives we send out never have fdn. put in the brood-frames unless they are so ordered. The comb-guides that are always put in the frames are all the guides needed for the straight combs, and almost everybody nowadays uses full frames of fdn. supported by wires, where they use fdn. at all; in fact, strips such as you mention would get broken off in transit, if we put them in. Fdn. is usually bought by the pound, and put in according to the notion of the apiarist. If our price list *stated* that the brood-frames were filled with fdn., then I think our friends would have reason to complain.]

CONVENTION NOTICES.

The next annual meeting of the Bee-Keepers' Association of Central Illinois will be held in Bloomington on the second Wednesday in January, 1885, at 9 o'clock A. M. W. B. LAWRENCE, Sec.

The Southern Illinois Bee-Keepers' Association will meet at Du Quoin, in Opera House, Thurs., Nov. 13, 1884. This is a new work. All are invited.
WM. LITTLE, Pres. F. H. KENNEDY, Sec.

The bee-keepers of Tipton and Hamilton Counties will hold their next meeting at Arcadia, Ind., on Thursday, Nov. 6, 1884, at 10 o'clock A. M. All are respectfully invited to attend.
JOHN FRITZ, Sec.

The Western Michigan Bee-Keepers' Association will hold a session at Fremont, Newaygo Co., Nov. 25, 1884. Trains arrive at 9:25 and 10:25 A. M., and 5:25 and 6:25 P. M. You are respectfully invited to attend, as an interesting and profitable time is anticipated. GEO. E. HILTON, Sec.

The Mich. State Bee-Keepers' Association will hold their next annual meeting in the Capitol building at Lansing, Dec. 10 and 11, 1884. Committees are at work on hotel accommodations. Reduced rates on railroads, etc. Full particulars next month. For any special information, address
Clinton, Mich. H. D. CUTTING, Sec.

A meeting of the Central California Bee-Keepers' Association will be held in Hanford, at 10 o'clock, on the first Wednesday in December, where we will discuss the present demoralized state of the honey market in California, and how to remedy it if possible. We should be glad to see some Eastern friends at our meeting. The last one was very interesting, and I shall try to send you some items of the next. GEORGE HOBLER, Sec.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

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DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

JOB LOT OF WIRE CLOTH

AT GREATLY REDUCED PRICES.

Such a brisk demand has sprung up for this, and our customers seem to be so much pleased with the goods, we have succeeded in getting another still larger lot, of one of the largest manufacturers of wire cloth in the world. Please bear in mind that the only way in which we can afford to sell it at the very low price of 1½ cts. per sq. ft. is by selling the entire remnant just as it is put up. We have now in stock the following pieces. As fast as it is sold, each piece is crossed out, and the next issue will show what remains.

Width, 8 inches.—3 rolls containing respectively 50, 50, and 60 square feet.

Width, 9 inches.—One roll, containing 60 square feet.

Width 10 inches.—7 rolls, containing respectively, 60, 72, 75, 70, 50, 65, and 75 square feet.

Width, 11 inches.—One roll, containing 80 square feet.

Width 12 inches.—5 rolls, containing respectively, 80, 100, 90, 90, and 100 square feet.

Width, 14 inches.—4 rolls, containing 116 square feet each.

Width, 16 inches.—4 rolls, containing respectively, 60, 1[illegible]0, 130, and 118 square feet

Width, 17 inches.—Oona roll, containing 50 square feet.

Width, 20 inches.—2 rolls, containing respectively, 50, and 150 square feet.

Width, 22 inches.—2 rolls, containing respectively, 250, and 180 square feet.

Width 23 inches.—One roll, containing 55 square feet.

Width, 24 inches.—12 rolls, containing respectively, 50, 55, 72, 20, 20, 30 80, 100, 110, 60, 110, and 200 square feet.

Width, 25 inches.—5 rolls, containing respectively, 53, 97, 100, 143, and 250 square feet.

Width, 26 inches.—14 rolls, containing respectively, 65, 69, 215, 40, 40, 200, 210, 216, 200, 215, 216, 65, 200, and 200 square feet.

Width, 27 inches.—One roll, containing 23 square feet.

Width, 28 inches —13 rolls, containing respectively, 58, 233, 93, 150, 150, 116, 200, 115, 40, 230, 220, 190 and 264 square feet

Width, 30 inches.—11 rolls, containing respectively, 110, 210, 25, 72, 90, 190, 62, 270, 115, 140, and 50 square feet.

Width, 32 inches.—9 rolls, containing respectively, 72, 150, 100, 172, 125, 41, 260, 130, and 133 square feet.

Width, 34 inches.—5 rolls, containing respectively, 200, 265, 85, 270, and 120 square feet.

Width, 36 inches.—9 rolls, containing respectively, 80, 270, 200, 60, 150, 130, 120, 175, and 300 square feet.

Width, 38 inches.—5 rolls, containing respectively, 75, 316, 300, 290, and 316 square feet.

Width, 40 inches.—5 rolls, containing respectively, 300, 275, 320, 166, and 125 square feet.

Width, 42 inches.—One roll, containing 245 square feet.

Width, 48 inches.—2 rolls, containing 140, and 160 square feet.

A. I. ROOT, Medina, Ohio.

300 Colonies of Bees For Sale,

Also 40 acres of land adjoining the city; good house, and plenty of good water. ANTHONY OPP,
21tfdb Helena, Phillips Co., Ark.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

IMPROVED SMOKERS with handle, $1.00. Samples of either S. S. Cards, Christmas, Advertising, Birthday, or Visiting Cards, 10c. Write for price list of fret-saw designs, Microscopes, etc.
J. L. HYDE, Pomfret Landing, Windham Co., Ct.

KIND WORDS FROM OUR CUSTOMERS.

A SAMPLE OF THE ENCOURAGING WORDS ONE GETS WHEN HE REALLY TRIES TO PLEASE.

Your kind offer of Sept. 29th is rec'd, and in reply I would say that the pecuniary loss on goods was not very great, and the satisfaction of feeling that one is dealing with an honest party is amply sufficient to counterbalance it. C. E. MERRILL.
Earlville, Ohio, Oct. 27, 1884.

KIND WORDS FROM A JUVENILE.

Thank you for the watch. It arrived safe. It is a little beauty. I was astonished to see how grand it was. It was *multum in parvo*—much in little. Honey was a failure here this year.
FRANK J. STEPHENS.
Cokeville, Pa., Nov. 3, 1884.

My other goods came all right and in good condition. The queen and half-pound of bees came in good shape—only 5 dead bees. By carelessness of the express agent I did not get them until five days after starting. Candy was all consumed, but the bees were bright and lively; the queen is doing finely, with a large colony of young bees from other colonies. H. F. PITMAN.
Williams, Ind., Nov., 1884.

OUR DEVICE TO PREVENT HONEY FROM FLYING OVER THE SIDES OF THE EXTRACTOR, ETC.

I received your rim, and tried it last week. "Novice" is an excellent machine now. I have no fault to find with it. Your glass-cutter and putty-knife is the cheapest and best thing for the money I ever got. Many thanks for the rim.
G. W. BALLINGER.
St. Johns, Clinton Co., Mich., Oct. 28, 1884.

THE PAY WE GET FOR TRYING TO PLEASE.

The smoker and package of slats arrived all right. I did not ask for nor expect any allowance on smoker; it was not ruined – only damaged. But as you were so liberal as to send another, and remembering your kindness in reference to one-piece sections in a former order, I present no further claim on you at this time, but acknowledge myself fully satisfied. Those sections I received from you last were "just splendid." It is a pleasure to work with them. A. C. WASHBURN.
Carbondale, Ill., July 2, 1884.

SOME KIND WORDS IN REGARD TO GETTING IN DEBT.

Friend Root, print in a prominent place in next GLEANINGS, "Don't get in debt," and put it in big letters. There is no slavery much more galling than that of debt. I am thankful every day that my good mother brought me up not to use tobacco or whisky, so I do not have to waste any thing for that, that should go for debts. EDWIN HUNT.
Sheridan, Mich., Nov. 1, 1884.

[I suppose you mean, friend H., that we ought to be careful about cramping ourselves by debt. One can not get along in the world without incurring obligation of some kind; but I agree with you, that unless he has at least two or three places where he can surely get the money in a contingency, he had better go without the thing wanted, and I suppose this is the point you mean to make. There are few things in this world more harrassing and trying to one who wants to be honorable and fair with all his fellows, than being cramped by debts; and woe betide the time when any man shall give up trying to pay all honest dues.]

The fdn. mill purchased of you last winter has given satisfaction in every particular. Too wet in the Willamette Valley this year for honey.
FRANK S. HARDING.
Willamina, Yamhill Co., Ore., Nov. 1, 1884.

The fountain pump came through all right. I am well pleased with it. Your packing clerk deserves credit for his skill in packing goods, as I never saw any thing put up more complete for safe transporting through the mails.

I could not get along so well with my bees, if it were not for the information that I get from GLEANINGS, besides the very interesting "Home" corner.
J. D. BROWN.
Bowman, Ga., May 27, 1884.

SOME KIND WORDS FROM A DISABLED SOLDIER.

The goods you sent me came all O. K., and I am well pleased, especially with my A B C. I truly admire your gentle Christianlike course. I think kindness will accomplish any thing that is worthy. I should like very much to be with you to talk, and see your apiary; but that can not be. I am a crippled soldier—crippled for life, but I feel that it is a pleasure to suffer for such a glorious government. May God bless you in your good work. My little girl is going to write to Uncle Amos pretty soon, and Blue Eyes too, but she forgets to think that the "blue eyes" are those of an older person now. She is our baby, 9 years old, and her name is Laura Itasca. She is the leader in her Sabbath school class. She has found "Blue Eyes' hive," and laughed big at their being frightened away from their melon supper. We have a fine patch; come and help us eat. You must wait till Sunday to read this letter, as it will take too much of your time.
Crothersville, Ind. THOMAS J. CORNISH.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

FRUIT, SHADE, AND HONEY.

The Blue-Ridge Raspberry will furnish all three. In 1882 the crop on one vine was estimated at four quarts—there being 2020 berries by actual count. The Blue Ridge is a new berry I found growing wild on the Blue-Ridge Mountain in 1879. It is a yellow berry, being a vigorous grower. If planted on south side of your hives it will make an excellent shade. It is a fine plant for bees; it commenced to bloom about May 3d, and continued in bloom over three weeks; and during the whole time, they were literally covered with bees. My regular price is $2.00 per dozen; but I will furnish them to bee-keepers for 60 cents per dozen, postpaid.

Address **JNO. W. MARTIN,**
Greenwood Depot, Abb. Co., Va.

White Leghorn Cockerels,
Pure Bred, Selected, for $1.25 Each.
KENNEDY & LEAHY, - HIGGINSVILLE, - MO.

Boiler for Sale.

We offer the steam-boiler we have had in use for sale. It has a 48-inch shell, is 12 feet long, containing 48 three-inch flues. The boiler has been in use about six years; but new flues were put in last Christmas, so that it is virtually almost as good as new. It has never been injured in any manner whatever. The only reason why we wish to dispose of it is, that we have put in a larger one, for the increased demand of our work. We know exactly what a new one like this can be bought for, for we obtained very close figures for putting in another like it, instead of one large one. Such a boiler new, including front grates, etc., will cost at the boiler-shops, $475. We offer this just as it is for $225, and warrant it perfect in every respect.

A. I. ROOT, Medina, Ohio.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

HONEY COLUMN.

CITY MARKETS.

DETROIT.—*Honey.*—The honey market has improved a good deal since last quotations. Sales are now more brisk; and if the present demand continues it will influence prices, which now range from 14 to 16 cents.
A. B. WEED.
Detroit, Mich., Nov. 11, 1884.

CINCINNATI.—*Honey.*—There is an unsatisfactory demand for extracted honey from manufacturers, while there is a fair inquiry for small packages of clover honey, such as dime, ½ lb., 1 lb. and 2 lb. jars from the retail trade. Prices are low, as arrivals exceed the demand. Extracted honey averages 5@9c on arrival. Choice white comb honey is in fair demand, and sells best in 1-lb. sections. It brings 15@16 cts. in the jobbing way. We have several small lots of dark comb honey from parties in Ill., and offer it as low as 10 and 11 cts. without finding a buyer. Dealers most certainly mislead producers by quoting buckwheat and poplar comb honey, if they are not more successful than we are in disposing of the same. *Beeswax.*—The demand is slow, and arrivals are few. Good yellow brings 26@27 cts. on arrival.
CHAS. F. MUTH.
S. E. Cor. Freeman and Central Avenues,
Nov. 11, 1884. Cincinnati, Ohio.

I have 25 barrels of mangrove and palmetto honey still on hand, that can be bought by the first applicants, at a fair price by the barrel. The honey is in first-class 40-gallon barrels, waxed inside, and is of the very best quality and color.
W. S. HART, New Smyrna, Fla.

I will pack my honey in boxes and put on board of cars, for 15 cts. per lb., from 100 lbs. upward.
SAMUEL BOYD, Fremont Center, New. Co., Mich.

CONVENTION NOTICES.

There will be a meeting of the Bee-keepers' Association of Hancock Co., at court-house in Findlay, O., on the 2d Saturday in December, 1884.
S. H. BOLTON.

The Massachusetts Bee-Keepers' Association will meet Nov. 19, 1884, at 432 Southbridge St., Worcester. All interested in bees are cordially invited.
D. S. BASSETT, Pres. J. G. JEFFERDS, Sec.

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GEORGE HOBLER, Sec.

VANDERVORT
COMB FOUNDATION MILLS.
Send for samples and reduced price list.
2tfdb JNO. VANDERVORT, Laceyville, Pa.

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GLEANINGS IN BEE CULTURE.
DEVOTED TO BEES, HONEY, & HOME INTERESTS.

Vol. XII. NOV. 15, 1884. No. 22

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HOW TO MAKE SUGAR SYRUP FOR BEES.

THE CRYSTALLIZATION TROUBLE.

OWING to the poorness of the past season for honey, I found, upon looking over my bees about the 10th of Sept., that I must feed quite a quantity of sugar in order that they might have sufficient stores for winter. The major part of my full colonies had nearly enough honey to winter on, had it been equalized among them; but all of my queen-rearing colonies were nearly destitute, so that the feeding of honey or sugar to them became a necessity, if I would keep them. At the present low price of sugar I did not hesitate long in deciding to feed that instead of honey, after which I began to hunt for recipes for making the sugar into syrup.

In GLEANINGS I found friend Root saying that all that was necessary was to pour boiling water on the sugar, and stir it, when it would be ready to feed as soon as cool enough, so that the bees would not be burned by it. As this was the most simple of all the plans given, I tried it the first of any. The feeders I used were what is termed "division-board feeders," they being to my liking, especially for small colonies like those used for rearing queens. As these feeders allow the bees to go inside the feeder, there would, of course, after they had been once filled, be more or less bees in them when the feed was poured in the second night. But as friend Root tells us that feed poured on to bees will do no more harm than water poured on to a duck's back, providing the bees do not drown in the syrup, I could see no impropriety in turning the feed on them. All went well the first night; but when I came to go to my syrup the next night, I found it skimmed over with a crust of sugar which had formed on the surface of the syrup during the 24 hours it had been standing. I also found that it had granulated on the bottom and sides of the can; and upon going to the hives I found a little on the sides and bottom of the feeders. However, I persisted in feeding it, as friend Root assured us that this syrup needed no cream of tartar nor vinegar in it, till one day I noticed bees out at the entrance of each hive fed, in large numbers, having little grains of sugar on their wings and bodies where the syrup had crystallized. These bees were trying to fly; but the most of them had so much sugar on their wings that they could only hop around, making a purring sound with their wings. I next looked inside the hive, when I found that fully a fifth of the bees had more or less of these sugar crystals on them, while the inside of the feeders was all covered with crystals. Upon looking into the cells containing the syrup I found that in many of them crystallization had commenced to such an extent that the crystals were easily seen.

I said to myself that this would never answer; so when the next batch of syrup was boiled I put vinegar in the water before the sugar was added. Friend Root says, in A B C, that grape is much the best article to put in (although he said in GLEANINGS nothing was needed); but as I don't wish to use glucose in any shape, and not having any grape sugar, this was out of the question.

While the vinegar helped some about crystallization, it also gave a taste to the syrup, which I did not like; so in the next I tried cream of tartar, and then tartaric acid; but in spite of them all, the syrup would granulate some unless I added so much that a disagreeable taste was given to the syrup.

I next thought of how I had used, years ago, some honey and sugar syrup mixed, for our own table, in which case neither the honey nor sugar granulated, so the next batch of syrup was made as follows:

Fifteen pounds of water was put into a large tin dish, and brought to a boil; then 30 lbs. of sugar was poured in and stirred for a moment till partially dissolved, when it was left over the fire till it boiled. Upon taking from the fire, 5 lbs. of honey was poured in, and the whole stirred enough to mix thoroughly. I now found that I had a syrup of almost the consistency of honey, which remained a liquid from day to day—a syrup which any bee-keeper could easily make, and one which would not crystallize on the bees nor in the cells. Some of this syrup has now stood in an open vessel for over a month, yet it shows no sign of changing in any particular. Thus I think I have solved the problem how to make a good syrup for winter feeding, of the best kind and quality, and here give it for the benefit of the readers of GLEANINGS.

Borodino, N. Y., Nov. 3, 1884. G. M. DOOLITTLE.

It seems to me, old friend, your article looks a little bit as though you wanted to pitch into your editor. We have fed sugar syrup to our bees, without any addition whatever, for nearly if not quite ten years past, and it did not do so very bad either, because we have wintered pretty well, notwithstanding some crystallization. Sugar does crystallize in our feeders too, and forms a crust over the top and on the sides of the tins; but the bees crawl down under the crust, and take out the liquid portions. It is only recently, you know, that we have taken to using granulated instead of coffee A sugar, and the granulated sugar is much worse to crystallize, which accounts in part for what you say. Again, is it quite fair to take an old copy of the A B C book when you ought to have, if you have not already, got a late edition? If I am correct, there is no account made of grape sugar in the A B C book as it stands now. I have objected to vinegar and tartaric acid just as you do, because one must put in enough to make the syrup taste suspicious, to prevent crystallization. If all kinds of honey will accomplish the result in the way you state, your suggestion is quite an important one. As many of the friends have been for years in the habit of mixing honey with sugar syrup, I suppose others can tell us if it works with them as it does with you. Sugar and honey are both so cheap now that we can well afford to put our bees in good shape. We have fed six barrels of granulated sugar to our bees already, and I have not seen any bees around the entrances rattling their wings in the way you state yours do, although I have seen bees behave that way when one in his greed got right into the syrup. It is my impression, that even then his comrades licked him off and fixed him up all right as soon as they got over the demoralization caused by such heavy feeding. I am very glad indeed, come to think of it, that if we have got to put something in our sugar syrup to prevent its "sugaring," that "something" is nothing worse than pure honey. Mr. Kimber, our apiarist, shall test it this very day, and I will report before we go to press.

LATER.—Mr. K. says that he has had very little trouble this season with the crystallization, except where he had got the syrup too thick. You know, we dissolve it by steam. He says he has fed many colonies where he saw no crystallization upon nor in the hives, while at other times, for some reason not known to him, unless it was because he put in too much sugar for the quantity of water, it turned back to sugar badly.

Now, just here comes in another idea: For some years some of the friends would persist in sending to us for bee-candy. For the last two seasons we have given them Good candy, just as we fixed it for feeding queens and nuclei; that is, we just make a ball of the candy, say the size of an egg or biscuit, and lay it on top of the frames under the mat. The bees lick it up, every bit of it, and store it in the combs, and we have never noticed this to candy; and according to your experience it ought not to candy, for it is honey and sugar, and nothing else. The quantity of honey, though, is perhaps considerably larger. We can furnish this in little balls, say about the size of an egg, at 10 cts. per lb. You have no feeder to fuss with, and it can be fed any day in the year. If you want brood-rearing to go on, just work a little rye flour along with the sugar and honey. Be careful, however, about putting in too much, for it may dry up in the cells, and become about as hard as a piece of bone. With a small quantity of the rye flour you would, however, be in no danger of such a result. Now I wonder if we have got down to "hard pan" at last in regard to candy for feeding bees in winter. Powdered confectioners' sugar, kneaded up with a good article of honey—has anybody any objection to raise to such candy for the children?

PAPER NOT MADE BY HANDS.

A MOST ASTONISHING PHENOMENON.

I LOST 25 colonies of bees last spring by dwindling. After a time I found moths at work in the combs, which were stowed away in closed hives. I had them all thoroughly fumigated with sulphur, and returned to the hives in honey-house. A few days ago I had the hives removed (the few that had not been used for new swarms) to the cellar. They were all in good condition except one, which was *literally alive* with moth worms, and the combs all destroyed. The hive-cover (½ story) was completely lined with a substance resembling a sheet of tissue paper—a small piece of which I inclose. Did you ever see any thing like it before?

GEO. H. PATCH.

Stevens Point, Wis., Oct. 31, 1884.

Friend P., this is truly wonderful. When I first took the specimen of paper you inclose in my fingers, I said to myself, "Surely this is the work of paper-machinery, and somebody by some process has put the paper on to that hive-cap." But when I took hold of it, it stuck to my fingers, just as silk does. The paper, when held up to the light, is of a beautiful, uniform, even texture, and is thin and smooth as the finest Japanese tissue paper, and is very fair to write on. How is it possible that moth worms ever did it? Please mail a sample to Prof. Cook, to put in their museum, and he can, if he chooses, cut this out of GLEANINGS to attach to it, and may be he can give us some additional light in regard to this paper not made by hands.

MRS. COTTON.

A BRIEF REVIEW OF HER CIRCULAR.

I HAVE lately received Mrs. Cotton's circular, in which I find the fallowing:

"SPECIAL REQUEST.

"To my customers.—The unprincipled dealers in bee-hives, books, apiarian supplies, honey-extractors, etc., are resorting to every means to deceive the public, and deter bee-keepers from adopting *my plan of bee-keeping*," etc.

I find, also, upon further reading of her circular, that her plan is as follows:

"In spring I feed lightly to encourage the bees to breed rapidly early in the season. . . . . A few days before the harvest from the flowers begins I feed liberally, to fill the *store* combs of the main hive, and to get them started in the boxes. . . . . The feed I use costs only about seven cents per pound; and when stored in the combs by the bees can not be distinguished from white-clover honey by the most delicate taste. The bees will build comb from this feed as rapidly as when gathering honey from flowers."

The above quotations speak for themselves, and it is not strange that every honest dealer should condemn them; indeed, it would be very strange if they did not. I do not know of any one who condemns the Cotton hive. It is an ordinary Langstroth hive, with frames about 15 x 13 x 14, and is intended to be worked on the side and top storing plan. The fault found with Mrs. Cotton, so far as I have been able to learn, is that she charges an outrageous price for her goods (which is her own business), and that she gives the advice quoted at the head of this article. No one can follow such advice without being guilty of gross fraud; what shall we say, then, of the one who deliberately advises others to do so? Mrs. Cotton complains that she is persecuted, and that, too, because she is a woman. This is not so; and as proof thereof, we find many women engaged in apiculture, in direct competition with supply-dealers, etc., who are loved and respected by the whole bee keeping fraternity. Should Mrs. Harrison, Mrs. Jennie Culp, Mrs. Tupper, and others of our female competitors offer publicly such outrageous advice as that given by Mrs. Cotton, they would at once be "persecuted," and justly, too, by every decent bee-keeper in the land. If Mrs. Cotton would walk in the paths of rectitude, and let her dealings be governed by the strict code of honesty and morality, the whole bee-keeping brotherhood and sisterhood throughout the country would welcome her with outstretched hands to their ranks; but so long as she prefers to pursue the course she does, she must expect to be shown up as what she is, and debarred from the society of those who intend to live a life of honesty and integrity.

JOS. E. POND, JR.

Foxboro, Mass., Nov. 4, 1884.

I believe it is true, friend P., that Mrs. Cotton, in her books and circular, always advises feeding bees sugar syrup, and calling it honey, after it is stored in combs. She formerly used to charge for the recipe for making the syrup. Of late, the principal complaint against her seems to be that, after she has received $20.00 for a colony of bees, she sends them out without a queen—at least they prove to be queenless, and it would seem as if she knew they were so, because of the very singular instructions she gives the purchaser; namely, not to open the hive inside of ten days or two weeks after it has been received. In that case they would probably have a queen by the time mentioned, if they had only a queen-cell when shipped. May be we are uncharitable; but if she will explain her reason for such singular directions, we shall be glad to listen to it. In any case, if she has any desire to be considered square, she can stop calling *sugar syrup* honey.

TRUANT SWARMS.

HOW TO GET THEM RECEIVED PEACEABLY INTO HIVES NEEDING THEM.

THIS was not a very good honey season in my neighborhood, and there was considerable trouble from robbing, toward fall. A pretty close watch had to be kept, or they would have ruined each other. In September I had some trouble with small swarms that came to my apiary. One came about the first week in September; and as I was working with one colony, and the bees were flying in considerable numbers in the air, they mixed in with them, and all forced in that hive. But they started killing immediately; and by the next morning there were perhaps a quart of dead bees in front of the hive. As I had had the same trouble last year, I thought I would try to keep them from killing them, so I smoked and shook them well; but, alas! they killed them all.

In about a week another small swarm came and went in with one of the weakest in my apiary; and as they had only a few dead bees in front of the hive, I thought they had accepted them all right. In about two weeks I opened the hive, and the bad odor that met me I thought first was foul brood; but by looking in I saw the bottom-board covered with perhaps half an inch of dead and rotting bees. Of course, I put them immediately into another hive; but where the bees came from, or what caused them to come, is a mystery to me. You can greatly oblige a Christian brother by telling what caused them to come to my apiary, and how could I make my bees accept them?

J. L. STAHL.

Webster Grove, Mo.

Friend S., the trouble with the truant swarms you mention is, that they come nearly starving. Almost any hive of bees will welcome new comers, providing they come well filled with honey; but a lot of beggars, as they see it, are no sort of use, so they sting them to death to get them out of the way. Smoking is a good thing, but it should have been followed up with good doses of honey or syrup, setting a tent over the honey meanwhile, to keep out intruders. Look after them often, to see that there is no unpleasantness, until they get settled down to business as one colony. If your colonies have all as many bees as they need, I should prefer having these truant swarms on a few well-filled combs containing some brood. They will then usually go right to work and make a good colony. I suppose they came to your apiary because it was the only opening and the only place they came to that seemed probable to them they could get food and shelter. If you take good care of your bees you will always find stray swarms coming to you, and I think it pays well to have some empty combs and a hive in readiness to receive them and make them comfortable. See what I say about such in the closing chapters of the A B C book. Thank you for your kind words.

DEMORALIZED SWARMS.

HOW TO MAKE THEM STAY WHERE YOU PUT THEM, WITHOUT SWARMING OUT EVERY FAIR DAY.

FOR the benefit of Jerome Horn, in Sept. GLEANINGS, I will say, in regard to a swarm of intractable bees, that I too have had such a swarm lately (all blacks), which a neighbor gave me, because he said the moths had run them out of his old plank gum, and they had clustered on the side of a bush near by. I examined the comb, and found it new, but perforated some by worms. I succeeded, by the aid of a good lamp and my knife-blade, in clearing the combs of the worms. I then transferred the combs to a hive with frames, then dipped the bees off with a tin dipper, after sprinkling them with sweetened water; put them all into the hive, and carried them home, a distance of half a mile. I then tacked a piece of perforated tin over the entrance, and intended to keep them confined for two or three days, and feed on white sugar; but my little boys begged so hard for them to be turned out, that I yielded, and, as I expected, they swarmed out in an hour or two, and clustered under a rose-bush on the ground. I let them remain until next morning, and hived them again, putting on my perforated tin again over the entrance. I kept them confined for four days. Meanwhile I plied the granulated sugar vigorously. On the 5th morning I turned them out, and they went to work in good earnest, as they are now storing honey and pollen, and have made new comb.

A SUGGESTION IN REGARD TO TRANSFERRING LARVÆ AND LARVÆ FOOD FROM ONE CELL TO ANOTHER.

I was much pleased with the idea of artificial fertilization of queen-cells, described in A B C, and have this improvement to offer: Instead of the "straw" recommended, I would go to the drug store and buy a straight-nozzled pipette for 10 cts., such as is used for dropping fluid medicine out of, and, by compressing the rubber bulb with finger and thumb, the air is expelled; then hold your grip, and insert the point into the drone-cell, and turn loose, or, rather, relax the grip on bulb, and the pipette will suck up all the fluid in two or three dozen cells. Then to insert, place the point where it is wanted, and compress slowly, and the fluid will exude drop by drop. I will say this to the brother bee-keepers who are not, like myself, members of the medical profession, that artificial fertilization was practiced on the human body by the immortal J. Marion Sims several years ago, and it is now recommended by some of the best authorities in the world, to overcome barrenness in women, that will not yield to other remedies. So we have only to strive in the undertaking as did Sims, and we shall succeed as did he.

I have two objections to the A B C book (although I consider it worth ten times the cost to one inexperienced like myself); one is, that I tried for three hours to find the inside measure of a Simplicity hive, and could not. The other is the trouble of having to turn so often to the back of the book to read Bro. Doolittle's comments, when they could have easily been put at the margin as foot-notes.

P. G. ALLDREDGE, M. D.

Brooksville, Ala., Oct. 3, 1884.

It seems, friend A., your plan is to confine the bees to the hive, and feed them till they get started with straight work; and I am pretty sure this will answer the purpose; but some swarms might have to be confined for a week or more.—Your suggestion of the pipette is a valuable one, but I did not know that an instrument was made so cheap as 10 cents.—In regard to your criticisms on the A B C book, the dimensions of the Simplicity hive are fixed by the iron gauge-frames, which you will find pictured, and the dimensions plainly given. In fact, these iron frames control the whole matter in regard to the size of hives. As the lumber is ⅞ of an inch thick, you can readily get at the inside dimensions. — Concerning Doolittle's comments, they were made several years after the book had been in print, and it would be a very laborious operation to so change all the pages as to put the notes at the bottom. Besides, we use foot-notes for other purposes, so the matter would be liable to be a little confusing.

HOW TO MARK A QUEEN.

A DISCOVERY MADE BY ACCIDENT.

I WANT to tell you of a strange circumstance—at least I think it so. On the 7th of May I put a new upper story on a hive, and painted it before covering the frames with the mat. There was a crack in the cover, and some of the paint dropped through and marked some of the bees, among them the queen receiving a drop on her back. On Friday, the 9th, they swarmed, and I put them in a hive about seven feet from the old one. I had no trouble finding the queen, as she was well marked. On Sunday, the 11th, the bees were very much excited, as though they had lost their queen. I gave them a queen-cell, and they raised the queen, but started 12 new queen-cells, which they afterward destroyed. The queen is a hybrid. On Monday I went to the old hive, and on the first frame I took out was the old queen with the paint on her back, and she is still there. S. J. BALDWIN, 17—30.

Nelson, O., Sept. 22, 1884.

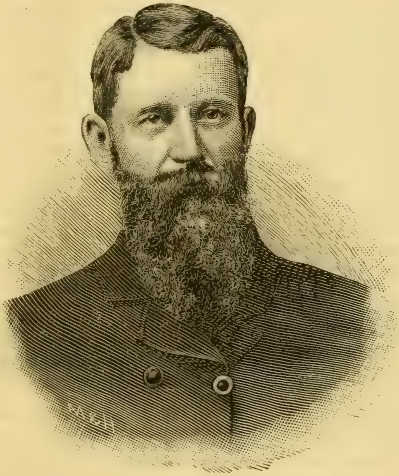
Friend B., the fact you give us, suggesting how we can mark our queens, is of much more value than the one showing that bees often start queen-cells and raise queens when they have one already. If we understand you, there are now two queens in the hive — a young hybrid, and the "old lady" with the paint on her back. Of course, the established rule is, that whenever a colony starts cells they are queenless; but it occasionally has its exceptions, like the one you mention. May be some of the bees thought they would prefer a queen without "decoration."

PICTURES OF PROMINENT BEE-KEEPERS.

ONE MORE OF THEM.

I SUPPOSE most of our readers have heard of Mr. M. H. Hunt, of Bell Branch, Wayne Co., Mich., even if they have not very often heard from him. Friend Hunt, like many another good man, does not like to write very much. We have to gather what he is doing by what people say of him, and by business transactions we may happen to have with him; at least, such is the case to a great extent. Once in a while he gets stirred up about some particular matter, so that he goes to work and writes us about it. Well, here is his picture.

I visited Mr. Hunt, as the friends may remember, some two or three years ago, the time I visited Ferry's great seed-gardens, and saw so many onions in blossom. Friend Hunt was one who saw what seedsmen might do for bee-keepers, and located an apiary in company with another gentlemen, so as to take advantage of the honey-flow. Ernest visited him last summer, and he told you something in regard to it on p. 566, 1883. Friend Hunt still uses the Adams horse-power for making bee-hives. His home apiary and surroundings are very attractive, and show progress on every foot of his ground. He is an enthusiastic worker, not only with bees, but he is fully up to the times in the recent improvements in agriculture. As I went around his little piece of ground with him he pointed out to me what he had done since he commenced on the place, and I began to wonder how much help he employed. To my astonishment he told me he did it all himself; but I found out afterward, by talking with his wife, that he is one of those happy mortals who find more enjoyment in working with his bees, plants, and fruits, than he would in going to a picnic or celebration. During the daytime he not only works out among the things he loves, but sometimes after the shades of night have fallen; and then bright and happy he is at it again as soon as, or sometimes a little before, the morning light comes to his assistance. As we three (his wife, of course, was the third one) were having an animated chat in regard to such things, he broke forth in his pleasant way:



M. H. HUNT, BELL BRANCH, MICHIGAN.

"Now, Mr. Root, you wouldn't believe it, but I once used to be a corner-grocery loafer. Didn't I, Mollie?"

Perhaps her name isn't Mollie, but we will play it is, and she assented with a pleasant smile that seemed to say, "How ridiculous!" as she glanced up at him, full of manly strength and manly beauty. Did I tell you before, that friend Hunt is a handsome man? Well, he is handsome around home, any way, with his bees and improvements. I wonder if it does not make any one handsome to work outdoors.

Friend Hunt has been remarkably successful in making exhibits of honey, wax, implements for the apiary, etc., for fairs. In a note accompanying the photograph, he writes us that he received premiums to the amount of $94.00 at the Michigan State Fair. The following we extract from the *Evening Journal*, of Detroit:

> The apiary is attractive to the student. It seems to be attractive to bees also, as many a bee-owner of this city will testify. The honey has drawn them in great numbers. One of the best exhibits is made by M. H. Hunt, of Bell Branch, Wayne Co. He is an enthusiast on bees, and regards it a pleasure to instruct the uninitiated. His name is made of honey, and a beeswax monument about four ft. high stands near the door. He explained the difference between the Italians, Cyprians, blacks, and hybrids, which is very noticeable after it has been pointed out, although the ordinary observer would see no difference. He might feel it, however, as there is about the same difference between their ferocity as there is between different breeds of cattle. A cross made of honey is also in Hunt's list of attractions. His library consists of numerous volumes in four or more languages. He sold $1409 worth of honey last year besides his other sales, and he employs five or six men. He had pieces of rotten elm which he uses to smoke bees when he desires to get the honey. The smoke makes them fill themselves with honey, and a bee full of honey never stings. He uses the artificial foundation for comb formation because it is economical, saving a great deal of the bees' time. He does not believe in wintering in the cellar, but keeps his bees out of doors in double-walled hives. He has to buy his boxes, a large supply of wood and paper being necessary, because he no longer has the time to make them as when he first started.

We also take the following from the *Michigan Farmer:*

> Last but not least came M. H. Hunt, Bell Branch, Mich., and from the extent of his exhibit he has been on a lively "hunt" all summer. He occupied the whole side of the building, 48 feet, with the largest and most interesting exhibit of this kind I ever saw. He and his friendly assistant, Mr. Chas. Collings, were kept busy from early morn till the building closed at night, answering questions, and explain-

ing the different articles in his exhibit. The first to attract your attention on entering, was the large monument of solid wax, about 200 lbs., with the name Huber on the base. It was secured by Prof. A. J. Cook, for the government to send to New Orleans. Next was the great pyramid of extracted honey, in every conceivable shape, in glass, tin, earthenware, and paper, all decorated with fancy labels, a large number of cases of comb honey, and a large collection of apiarian implements. Mr. Hunt received many premiums; his first premium on section box for comb honey was well placed, also premium on comb foundation. Mr. Hunt has the science of making foundation well learned; his samples were the finest I ever saw made on a roller mill.

The market value of the contents of the building was $2780 50. The number of exhibitors is increasing every year. One exhibitor from Ohio, who had been at the Ohio State Fair at Columbus, also the Tri-State Fair at Toledo, then to the Michigan State Fair at Kalamazoo, said Michigan beat any thing he ever saw in the way of an exhibition.

The system of expert judging was tried for the first time in this department, and, as far as known, gave the best of satisfaction. Dr. A. B. Mason, of Wagon Works, Ohio, with his usual good nature, filled the bill to a dot. All the premiums offered in this department were taken, besides a few discretionary ones. Among the many visitors you see the smiling face of Prof. A. J. Cook, and his cheering words of "Grand! grand!" went to many hearts present. James Heddon, Thomas Bingham and daughter, Dr. Haskins, Dr. Southard, and many more of the old and new time bee-keepers were present. It is hoped that at the next State Fair the building will be filled with bees and their products, and all the paraphernalia necessary to carry on one of the growing industries of America.

Oh, yes! I want to say one more word about the time when friend H. was a "grocery loafer." May be that is putting it pretty strong, but I think he told me he used to smoke along with the rest of them when they sat around the stove and told stories. I do not believe he ever learned to swear, because he seems to be too much of a gentleman for that. Now the moral is, dear friends, that when he got busy with the bees he had no desire for any such, any more; and one of the cheerful things about our calling is that it seems to have the effect of drawing out a man's better feelings. When one really gets the bee fever, or strawberry fever, for that matter, or any of these passions for outdoor work, he loses all taste for lower pleasures. In watching the ways of animal and vegetable growth, he seems to be drawing nearer to Nature and Nature's God, and the other is crowded out of the way. He not only wonders how he could have cared for such things, but he feels amazed that he was once among that class, and his wife and family follow him in that feeling. Yes, you may be *sure* they do, every time.

FOUNDATION A YEAR OLD OR MORE.

IS IT ADVISABLE TO USE IT?

DURING the last few years I have made considerable use of foundation, and, as a matter of course, have been somewhat exercised to get the best; that is, that which would be used in the most economic manner by my bees. In experimenting in this direction (and I speak now particularly of brood-comb) I have used fdn. made by various makers, and of various qualities; also various ages. My experiments lead me to the conclusion that fdn. with high side-walls, and a very thin base, weighing from 5 to 7 sheets L. size to the pound, are used most advantageously and economically. As various conjectures had been offered in regard to whether old fdn. was as acceptable to the bees as that perfectly fresh, I tested the matter this last summer as thoroughly as possible to be done in a single season. I had on hand quite a quantity left over from prior seasons, some of which was nearly four years old. This I used in several hives, side by side with sheets perfectly fresh, and found little if any difference in the time taken to draw it out. I also tested that made with rolls with a small quantity made in a press, and I do not find any superiority whatever in that made on the press, and must conclude that the ideas advanced, that the rolls cause the wax to be much harder than does the press, are matters of theory rather than of real practical experience. And why, if the rolls cause the wax to assume a harder surface than the press, should that of itself make any difference in the softness of the wax when exposed to the heat necessary to draw it out? Wax can at no time be any harder or more compact than its composition will allow; and whether the press or rolls are used, sufficient pressure must be made upon it to form a thin base to the cells, which are indented in the same way, practically, in the one case as in the other. With me I found no difference in results, as I have stated, neither in the question of age nor pressure, and consider that, so far as the impression is concerned, it makes no difference whether the press or rolls are used. In the matter of freshness I prefer, of course, to use that which is new; but there is so little difference in the working of new and old by the bees, that I should consider it very poor economy to do as some writers have suggested; viz., to melt down and make over all fdn. more than one season old. Wax will harden by exposure to the air, but I have never seen any unbleached wax yet that would not be made soft enough to work easily at a temperature of from 85 to 90° F.

J. E. POND, JR.

Foxboro, Mass., Nov., 1884.

BEE-KEEPERS' COLLECTIVE EXHIBIT.

A NOTE FROM OUR FRIEND DR. BESSE.

I AM appointed Assistant Commissioner for Ohio, to represent and arrange the apiarian display at New Orleans. The exhibition will not be large, but I shall aim to have the most instructive articles, such as hives, honey-packages for shipping and in market, and all kinds of apparatus and material used and produced in the apiary. I am given but a small amount for this object, and will therefore have to limit the exhibit to the practically useful. If any bee-keeper or supply-dealer thinks he has that which will be instructive, and is new and peculiar, I shall be glad to hear from him at once. Any article loaned or donated will be arranged in the most tasteful manner. This will afford an excellent opportunity to advertise goods. All articles must be sent to my address at Delaware, O. I will pay the express or freight charges. All desiring to respond to this request, please do so at once, as all articles must be sent to me by Nov. 20, 1884.

H. BESSE, M. D.,
Assistant Commissioner for Ohio.

We congratulate you, doctor, on your appointment; and from the experience you have had in such matters, we feel sure the authorities have got hold of the right man for the place.

FOUL BROOD.

ITS CURE BY FASTING, WITHOUT THE USE OF DRUGS OR CHEMICALS.

THE following valuable article was sent us by friend Jones, with a note accompanying as below:

Friend Root:—If the following is any good to you, you may use it. It will be read at the Rochester Convention on the 29th and 30th.

D. A. JONES.

There has been so much said of late on this subject that it would seem to be pretty well worn out; but there are yet many apiaries suffering from the malady, where a simple and effective treatment would be gladly tried if known. I have experimented considerably, and found that the disease can be cured without any difficulty without any medicine, and without any possibility of its ever returning.

Perhaps I may be allowed to describe the disease as I have found it in Canada. In speaking of foul brood I would first distinguish it from all other diseases, such as chilled brood, over heated or scalded brood, neglected brood, starved brood, dead brood caused by shipping bees, and another kind of dead brood which resembles foul brood in some respects, and is doubtless what some call a mild type of foul brood. It would make this article too long to describe minutely the appearance of the various kinds of dead brood above referred to, and the various causes of its appearance. I also do not wish to interfere with any other person's system of curing foul brood, but simply to give my own, which has proved successful with myself and scores of others, in the hope that those who have tried various remedies unsuccessfully may be encouraged to try once more with no further expense, and, with but little trouble, rid their apiaries of this foul disease. I do not believe, with some, that there is only *one* method of cure (and that their own). I know by experience that it can be cured in various ways, and I intend to continue my experiments, with the aim of still further simplifying, if possible, the method of cure.

Some imagine that foul brood may be discovered by the foul smell arising from the diseased colonies. This is true as far as it goes; but if one waits until then, there is a probability that very many, if not all the colonies in his apiary, have become diseased. Before such a condition had resulted, the disease would have been running for a long time in some one or two colonies, from which, especially in spring or fall, when robbing is carried on more or less, the surrounding hives would surely be contaminated and become themselves centers of infection. A single drop of honey taken from a diseased hive, if fed to the larvæ of a healthy hive, is sufficient to start the work of what, unarrested, is inevitable destruction. When the disease becomes very bad, much of the brood dies before it is capped over; and never is capped after it once dies. I have frequently seen colonies that had become so diseased that a very large portion of the brood had died just before it was capped, and some of the larvæ before they had got their full growth.

In examining the larva just before and after it dies, I find that a dark spot first appears about its center, and increases in size very rapidly. Shortly after its appearance, short threadlike veins extend from this center toward both extremities of the larva, and appear to plant two new spots, from which more veins soon radiate. The veins and spots then gradually enlarge until the entire larva is uniformly affected. The skin of the larva also commences to wrinkle and shrivel up on the top side, the larva flattens down, and gradually recedes to the back of the cell, and finally becomes the brown, putrid mass which distinguishes foul brood so markedly from all the above-mentioned maladies.

This brown ropy matter has a sticky and tenacious — almost elastic — consistency; and if a pinhead be inserted in it and drawn slowly out it will stretch like india-rubber, and jerk back into the cell again. The bees make efforts to remove it, but, after a few trials, give up in disgust, and philosophically endure what even they find too incorrigibly obdurate to cure. Allowed to remain, this viscid substance in time dries up at the bottom of the cell, and would not be noticed except by a close observer.

A diseased larva that is capped over is indicated by a sinking of its capping compared with the fuller appearance on the capping of healthy larvæ. A small puncture is also made by the bees in the capping, in size from a pinpoint to a pinhead. This seems to satisfy them that there is nothing to expect, and the cell is left to itself. If the apiarist opens such cells carefully, and finds the contents as above, he may be sure he has foul brood; but if the larva retains its shape and size, and the skin seems perfect, even though somewhat shriveled, that is *not* foul brood. These punctures are sometimes made in merely dead-brood capping, their nonemergence at the proper time being doubtless noticed by the bees and thus investigated. Wherever foul brood exists in a colony during the brooding season, the brown ropy matter in the cells may be found.

I could describe several methods of cure, but the following I think will be ample; and as it is very simple and easily performed, it comes within the reach of everybody. If the bees have any brood, I do not destroy that brood. I remove all the bees that can be spared from the hive, leaving only sufficient to take care of the brood while it is hatching, taking the queen with the bees. I endeavor to have them all filled with honey before removing. They are then shaken into a box with a wire-screen lid, and placed in a box in a dark and cool cellar. The box should be turned down on its side; the bees will cluster on the other side, which will then be uppermost; and the wire screen, forming a side for the time being, will allow of free ventilation. They should be left thus from 3 to 6 days, according to the temperature and condition of the bees, which may be determined by watching; and when a few bees fall down and begin to crawl in a weak, stupid manner, and those still clustering appear to have shrunk, they may then be removed, placed in a hive, and supplied with comb or foundation, the same as a swarm. A little honey or syrup should be given them, when they will soon be out foraging again for themselves. I have not been able to see any difference between swarms so fasted until the foul honey in the abdomen has been consumed, and an ordinary swarm of similar size. Both seem to go to work with the determination that characterizes their race.

Some still say this fasting plan is a failure; but where that has been said it can not have been properly tried. As soon as the brood, which was left in the foul-brood hive with bees, as directed, is hatched out, they should be treated like the others, the combs rendered into wax, and the hive and frames boiled for a few minutes in hot water. The wax, in the form of foundation, may be inserted in the frames, and be ready in the purified hive to receive, with perfect safety, the former inmates as soon as their purification is complete. The honey in the foul-brood combs, if extracted and boiled for ten minutes, can be fed to bees without any fear of bad results. Only *boiling* will kill the germs of the disease. I have subjected foul-brood combs to a temperature of 35° below zero, and allowed them to freeze all winter, then placed one of them in a healthy nucleus; and as soon as it was filled with brood and commenced to hatch, I have found at first examination a very large number of larvæ affected with foul brood. Frost will, therefore, not kill the disease.

I search out every case of foul brood in this part of Canada, and have never failed to effect a cure at the first attempt. In fact, there are a great many in Canada now who no longer dread foul brood as they used to, knowing they can cure any colony with one or two hours' labor.

We have had some good and valuable hints on foul brood in the journals, and some sheer nonsense. Fine-spun, scientific theories are sometimes good, but solid facts from extensive practical experience is what suits me best.

So soon as I shall be able to find time, it is my intention to write up more fully a complete and exhaustive article treating on the disease, its origin, and its cure, and by illustrations I hope to make it perfectly plain and clear, so that the disease may not be looked upon, as at present, by many, as an incurable one.

D. A. JONES.

Beeton, Ont.

I am very glad indeed to receive the above article, and I feel sure that, if the directions are faithfully followed, the disease can be eradicated every time. Very likely, as friend Jones says, other plans may work as well; but I do like some remedy that does not require medicine. Will those having foul brood give it a careful test, and report?

BLACK BEES THAT ARE TO BE BRIMSTONED IN THE FALL.

How to Make Good Italian Colonies of Them at Small Expense.

A SUGGESTION IN REGARD TO ROBBING.

FRIEND ROOT:—When I want black bees I get all I want from box-hive men in the fall, by drumming out the bees that they would brimstone, for that is the way they get honey around here. I got over ten swarms that way this fall. I brought them home and killed their queens, and put one or two in each nucleus where I had a young Italian queen laying. That is what I do after the honey season is over. I find out about how many swarms of black bees are going to be killed, and then I rear so many Italian queens in nuclei, get them to laying, and when these neighbors want their bees "taken up," as they call it, I arm myself with a smoker, and a box for each swarm I intend to take up, and hitch "Billy" to the "democrat," and start; and you know how I get bees out from box hives. I will tell you how I manage when the hive is full of comb and honey, and there is a likelihood of mashing honey. I drum them up in my box; but when there is a little bunch of comb and honey at one side of hive I just shake the bees on the ground, and let them run into my box. Well, after I get every thing snug I put boxes in the wagon, and start for home. When there I take my bee-tent and set it over one of my nuclei, then I take one of my boxes containing bees, and, after smoking the nucleus and getting the bees well filled with honey, I open my box and shake the bees in a pile a little way from the hive; and as they run toward the hive I catch the queen and kill her. After they have got settled, and will defend themselves, I go to another nucleus and repeat the operation until I have them all in hives. I have no trouble at all with robbers, for I do not take the tent away until I am sure they will defend themselves. It is fun to see the little black chaps grab an Italian robber after they are only about ten minutes in their new home.

There is one thing right here that I do not understand. This fall I had to supersede a black queen, because they would not keep out the robbers; but as soon as I got an Italian queen in the hive they would not let a robber come near. Now, that was as soon as I had got her laying, before any Italians had hatched out.

My secondary object in addressing was on that subject in GLEANINGS for Oct. 1, headed,

THROWING OUT ALL THE HONEY WITH THE EXTRACTOR.

Are there extractors in use that will extract *all* the honey late in the fall? Now, friend Root, I hold that one extractor will extract as clean as another. It is only in the motion, and you could, I was going to say, extract comb and all from the frame, if you could turn fast enough. My experience is the same as yours; where I have turned fast enough so as to force the combs half an inch through the wires of the extractor, and then not get all the honey, my way is to warm them sufficiently, and then what I can not get out I let the bees have. That is all the feeding they have had this fall; and all the queens, with two exceptions, are laying, yet I always have the bees clean up my combs before I put them away for winter, they are so much nicer. Get the bees to clean them out well, and give them a good taste of brimstone, and you will be surprised to see how nice your combs will come out next spring. I have over 600 put away on the above plan, and I commenced bee-keeping only in 1883; from 3 colonies I have 64 now, all Italians and Holy-Lands.

I shall close by telling Mr. James McNeill, of Hudson, N. Y., that I have got every colony in my apiary so that I would not be afraid to let them clean some combs outside of their hives; but the main thing is to be sure that every hive is willing and able to defend itself; and I find that there is nothing better than to give every hive a taste of honey when you commence to let them clean up combs for winter; thus, give them a taste to-night; to-morrow they would protect their hives from any bee or anybody without smoke. Now, this is the Italian, Cyprian, Holy-Land; and, I think, the blacks would too; I have none to try—don't want any either. D. W. MOORE.

Tintern, Ont., Can., Oct. 8, 1884.

Thank you, friend M., for your excellent suggestions in this matter of getting bees in the fall. The idea of using a tent to avoid robbing, until you get them well united, is a good one.—In regard to the black bees defending their stores as soon as the Italian queen got to laying, I think the effect would have been the same had you by some means induced the old queen to lay, and have brood started. Any colony will defend its stores better when they have brood to care for than when they have none; in fact, when a colony is being robbed, the first thing I do is to make sure they have brood in the larval state. If they haven't, I give them some.—In regard to the care of combs, I do not think I should take the trouble to brimstone them in the fall; for as soon as there is a frost, it answers about as well as to brimstone, does it not? As for putting combs out in the open air to be cleaned off by the bees, I would advise you to try not more than one at a time; and, if I am not mistaken, you will decide in a very short time that that one had better have the bees shaken off from it and be put away.

HOW TO SELL HONEY.

AXIOMATIC POINTS IN HOME MARKETING.

AS the result of experience and careful observation, I have prepared the seven following statements relative to the local marketing of honey. "The proof of the pudding is in the eating." Any who are dubious as to the efficacy of the system detailed, let them try the virtues of the prescription and note the result.

FIRST—GRADING.

Honey should be graded with reference to color and quality, and priced accordingly.

SECOND—BOTTLING.

Extracted honey for retailing should, as far as possible, be bottled in such a manner as to preclude leaking. Granulated honey sells best in tins, liquid in bottles. All packages should be secured in such a manner as to render it impossible for them to be opened in the shops without the knowledge of the customer.

THIRD—ADVERTISING.

Advertising honey by means of lithogram circulars is one of the best methods of so doing; next to it might be ranked pointed notices in the local columns of the town paper. Well-dressed cases and stands in retailers' shops is a form of advertising which as a rule pays in proportion to the amount of care and taste expended in getting up the same. Judiciously distributed samples is an excellent method of gaining increase of custom.

FOURTH—PRICE.

The apiarist should reserve his lowest prices for his own locality.

FIFTH—PEDDLING.

As a method of disposing of a honey crop, peddling is the most rapid of any.

SIXTH—EDUCATION OF PUBLIC.

It is the very best policy, in seeking to establish a honey trade in a locality, to educate the public by every possible means concerning honey in its various forms and uses. Whilst so doing, the facts regarding the adulteration of table syrups, sugars, confectionery, etc., can be made an important factor in advancing the interests of the trade.

SEVENTH—FAIRS.

Local fairs can be made useful in disposing of large quantities of honey, besides gaining future customers.

These are the points stated in brief: we shall now comment on each in the order which they have been given.

Honey should be graded, and priced accordingly. 1st, Because honesty demands that an inferior article shall not be classed with a better; 2nd, Because it is safe trade-policy for two reasons: 1st. On account of causing the appreciation of a better article, with a better price as a consequent; 2nd. On account of the cultivation of the public taste, the trade of the established apiarist is safer from the encroachments of others who do not take the same trouble as himself to supply the demand of the market, hence he has greater control of the trade in his own neighborhood.

Point 2. Nothing is more likely to inculcate a hearty disgust for the whole business, in the mind of dealers, than consignments of bottles, tumblers, or tins, whose chief mission seems to be to stick themselves and every thing about them; and from their appearance in this condition, nothing is more apt to spoil their chances for sale, in the eyes of the consumer. This state of affairs may be remedied by pasting a strip of tin foil about ½ in. wide all around over the crack underneath the stopper, top, or cover. New season's honey, after being thoroughly ripened, and whilst clear and ungranulated, sells best in white-glass self-sealing fruit-jars; its beautiful appearance in this is very attractive. It is good policy to let the customer know that he is at liberty to return the bottle after using the honey therefrom, and the full price of the same will be remitted on so doing. Not one in a dozen will take the trouble to do so, and it is a satisfactory arrangement for all.

If the producer desires to gain for himself a good reputation in his business, and the possession of this is of more value to him than money in the bank, he must take an unflinching stand on the matter of quality, purity, and weight of all goods issuing from his apiary. To fulfill the first, let it be carefully seen to that no extracted honey leaves the apiary in any other than a thoroughly ripened condition; and as regards the second and third, let all the honey for retailing purposes be properly weighed by the apiarist into every bottle, tin, or jar, and then after having secured the same from leaking by placing the tin-foil strip in position, next put two strips of good strong colored paper over the top of the vessel, pasting one across the other, and bring the ends of the same down over the sides so that, when the label is put on, it will cover their lower extremities. Now paste a label bearing the following notice on the cover over the part where the strips cross:

"We guarantee this honey to be of full weight and purity, so long as this strip remains unbroken."

The strip may be about ⅝ in. wide. It is practically impossible for packages to be tampered with when thus prepared, and the fact remain undiscovered, and few would have the hardihood to attempt it. Another value which the strips have when placed over the cover of tumblers is, that they give additional aid in keeping such as are loose-fitting in their place.

Point 3. Advertising in connection with the honey business can be accomplished in a variety of ways, but most effectually, in our opinion, by the combination of several, and these may be stated as follows: 1. By getting up lithogram circulars, describing the facts concerning the quantity, quality, purity, price, and by whom sold, and mailing one to the lady of every house within a radius of 7 or 8 miles from where the apiary is located. 2. By inserting pointed notices in the local column of the town paper, changing them as often as possible. 3. By giving the honey as tempting an appearance as possible in the shops of the consignees. This may be accomplished by employing some style of glass show-case, with stand combined. 4. By sending small sample lots to influential persons, such as hotel and boarding-house keepers, heads of large families, editors, etc., with a polite note accompanying each, requesting the favor of trial, and stating price, etc.

Point 4. It is advantageous to the producer, for several reasons, to sell his honey at as low a figure as possible in his own locality. 1. Because the direct tendency of the ability to give a good article at a close price is to keep other specalists out of the field where this state of matter exists, for it is evident that no other party would seek to locate in a neighborhood which was already occupied by an apiarist who ran a sufficiently large apiary to supply the demand for 6 or 8 miles around, and at bed-rock figures in the bargain. But not only has a low price a tendency to keep out opposition, but on account of its comparing favorably with that of ordinary table syrup, butter, etc., many who would otherwise be hindered from using it are able to do so, whilst such as have begun its use soon look upon it as a sort of necessity which must be rarely absent from the house; hence, a low price serves to make and retain custom. It is a good plan, when dealing with farmers, to make the offer of exchanging honey for readily salable produce, such as butter, eggs, etc. Many would do business in this way when they would not pay out the ready cash.

Point 5. If peddling is not objected to, this is without a doubt the most rapid method of disposing of a honey crop. With his wagon standing at the door, and the influence of the personal presence of

the apiarist or his agent in the house, a very much greater number would purchase, when the temptation to do so is presented them under these circumstances, than if left to themselves to act in the matter. We have heard of honey crops of several thousand pounds being disposed of in this manner at good figures in the course of two or three weeks' time. But not only is rapidity of sale effected, but the business is advertised by this system as thoroughly as any one line of effort in this direction is capable of doing.

Point 6. Much misapprehension exists in the public mind concerning the various forms in which honey is put upon the market of to-day. Section honey and artificial comb filled with syrup or glucose, extracted honey, strained ditto, and mixed extracted honey and glucose are all spoken of as though they were synonymous terms for but two articles only; viz., what is sold as honey in the comb and honey out of it, whilst the foundation-machines are for the manufacture of spurious comb, and the extractor for filling them. Such like notions seem to be entertained by some, whilst others, hearing that Mr. So and So is using up barrels of sugar in feeding his bees, account most satisfactorily, at least so far as themselves are concerned, for the wonderful yield he receives from his apiary; or when the producer does get the credit of at least selling pure goods, he is annoyed by having his extracted perversely called "strained honey," which, with many, means nothing more than the product of a mingled mass of honey, bee-bread, larvæ, and comb, mashed up together, heated over a fire, and strained through a cloth. Now, how is this state of affairs to be remedied? We answer, by the proper education of the public, concerning the general nature of the operations by which the modern forms of honey are produced; let it also be explained wherein the extracted is superior to the strained honey; also what section honey is, and why so termed; make known the great test for all liquid honey; viz., its granulation in cold weather, and also why extracted honey can be sold at about half the price of that in comb; teach them the value of honey as a food and medicine, and by any and every means spread abroad the knowledge respecting its various forms and uses. This may be accomplished by circulating lithogram circulars as described under the head of "Advertising," also by the personal explanation of the apiarist, the thorough enlightenment of every consignee of honey, by the aid of descriptive articles in the town and county papers, and by the exhibition of the principal apparatus and their method of manipulation at all the local fairs. The present wholesale adulteration of table syrups, and certain lines of sugars and confectionery, can be made a lever by which the interests of the honey trade can be raised as well as depressed.

Point 7. Besides well advertising our business, large quantities of honey can frequently be disposed of at fairs. See Mr. Jones's statement concerning honey sold by him in this manner at Toronto fairs, in GLEANINGS. To facilitate sale by this means, a large and attractive exhibit should be made in vessels of any size, from 2-oz. tin boxes, which can be sold at 5 cts. apiece, up to barrels of 250 or 300 lbs. each, besides which should be a good display of apiarian implements, nuclei in observatory hives, literature and honey-plants, and, indeed, every thing possible should be done to attract and tempt the observers. It is well to have a large sign in a conspicuous position, intimating that honey is for sale, with a scale of prices attached, and the apiarist himself or a competent assistant should always be on hand to answer inquiries as well as conduct sales. A. H. DUTTON.

Brussels, Ont., Oct., 1884.

HOW TO MAKE A CISTERN.

SOME ADDITIONAL SUGGESTIONS.

MR. ROOT:—I should like to add a suggestion to your directions for a cistern. For a filter, dig a narrow hole about 18 or 20 inches from the main cistern wall, same depth as the cistern, and about three feet wide when stoned and cemented. Make two or three holes between the cistern and this well about a foot from the bottom, and put in some pieces of stone pipe having an orifice two or three inches in diameter. Pack these pipes with sponge, pounding it in with a hammer. In the cistern put a few bushels of broken stone or coarse gravel on the bottom below the pipes, then a layer of charcoal, then gravel, then coal, then gravel, etc., finishing with gravel. This forms the filter. The water will pass through the coal and gravel, then percolate slowly through the packed sponge into the well, where it can be drawn up for use. It will never be necessary to wait for a dry time to clean the cistern, for the water in the well can be drawn out at any time in a couple of hours, and the well washed out clean, and in the morning there will be plenty of water again. Put the overflow-pipe in from the bottom, and the *cistern* will not need cleaning for twenty-five years. Half a bushel of iron filings spread over the top of the filter will neutralize any organic matter that may get in the cistern, and will not affect the taste of the water.

For a felon, bathe with tincture of iodine, and it will give instant and complete relief.

Nelson, O., Sept. 22, 1884. S. J. BALDWIN.

Thank you, friend B., for the hints you give. The one in regard to making cisterns so you can clean them out without losing what little water you may have on hand is a valuable item. How many times we have concluded it would surely rain, and began to work in a hurry to pump out all our soft water, and then found to our disgust that it didn't rain after all! and, worse still, sometimes we have weeks or months of drought, without a drop of water in the cistern. I have before mentioned that the roof to our new house is of slate; and while we are about it, perhaps it may be well to state that a slate roof does not cost as much in the end as a shingle roof. Of course, the cistern should be thoroughly coated with the best water-lime cement, except this filtering partition. Before the water is turned in, the cement should be allowed to dry thoroughly. There is this one drawback with these cement cisterns; that is, that the lime impregnates the water for quite a time. The repeated washing-out, though, with the plan I have given, helps the matter very materially. Pumping the water out several times from the filtered side will also help. After all the limy taste is removed you will have water equal to any spring water in the world;

beautiful to look at, splendid for washing or cooking, and the most delicious to the taste of any when you once get used to it.

NO MATURED BROOD WITHOUT POLLEN.

FEEDING RYE MEAL IN THE FALL.

I HAVE 13 colonies of bees. They have not raised any brood since the last of August to amount to any thing, on account of the drought that has been on us ever since about the last of June, which I believe is the cause. I have been feeding sugar syrup all the time to keep up brood-rearing, and it kept the queens laying all the time, but the larvæ perished as soon as hatched from the eggs; but the queens kept the cells supplied with eggs all the time, but of no avail, until within the last few days, when I found out what was the matter. They had no pollen, and could not get any, so I gave them rye flour, and they are going for it like pigs, and raising brood all right. I should like to have your opinion or advice. Did I do right in giving them the flour? and is there any danger of feeding them too much rye flour in the fall of the year? Would you advise making rye-flour candy and filling wired frames, and give each colony one? Would it keep them raising brood all winter, if well packed in chaff hives out of doors? Your advice on the above is very much desired.

I will tell, also, some experience I had last spring in introducing a queen, to keep the bees from balling her. The bees were Italians. Their queen turned up missing late last fall, and they raised one of their own, and it was too late for her to get fertilized. They wintered well, and their queen commenced laying early in the spring, but her brood was all drone. I sent to S. Valentine & Son, and got an Albino queen; introduced her into a Peet cage, and in 48 hours I released her. The bees behaved all right to her; but according to the A B C book I looked after her in about 30 minutes, and found her on the bottom of the hive, in a ball of bees. I put them in a pan of water, and released her; put her back, caged on the comb again. Next day I let her out again, closed the hive for a few minutes, and then looked for her again, and found her balled. I caged her again, and this is what I did to stop it: I took another Peet cage, and when the bees would pile up over the cage the queen was in, I would set this cage over them and slip on the bottom, caging the bees that were after the queen. I repeated this several times, closing the hive each time; put the bees all in a large cage; then I let the queen out, and there was no more balling from that time on. I then took their own drone-laying queen that I had in another cage, and put her with the bees I had caged, and they killed her in no time. I then burned them all up. It seemed that it was only a certain number of bees that were after the queen. If there is any thing in this, it may do somebody else some good. I should like to have others try it, and report in GLEANINGS.

NIMSHI NUZUM.

Boothesville, W. Va., Oct. 11, 1884.

Friend N., your experiment has turned out just about as mine did when I tried to raise brood without pollen. I have fed rye meal and candy so as to keep bees rearing brood clear up to Christmas. The colony wintered nicely, but I don't think it necessary, as a general thing, to go to this pains. Of course, I would use a chaff hive so as to keep them warm, that the brood may not be chilled.—Your discovery in regard to preventing the balling of queens, I should think might prove quite valuable. I have several times thought it was only a limited number of bees that so persecuted a queen; and since you speak of it, I feel quite certain that if you can cage these few and get them out of the way, a great many queens could be turned loose in the hive at once. I do not believe I should recommend *burning* them up, even if they did act as if they were possessed. Your plan of catching and caging these mutinous bees is ingenious also, and I wish others would try it and report. I have sometimes caught a bee that seemed determined to sting the queen, and killed him, and after that the rest would behave tolerably well.

THE HONEY CROP IN TEXAS.

ALSO SOME SUGGESTIONS IN REGARD TO DOUBLING UP AND UNITING COLONIES.

MY honey crop is short this season. I commenced in spring with 160 swarms; increased 90 per cent by natural swarming, and the building-up of nuclei into full swarms. I have taken 3000 lbs. extracted, no comb. From sale of bees and queens, and honey, I have realized about $500. In my locality I have never had two good seasons in succession, but never an entire failure. Lime and wild china yielded very little honey this season. They yield well only every other season.

Bees have been gathering from goldenrod for four weeks, and are gathering now very fast. I shall extract some yet. I have been busy this fall, doubling up. I have now 200. My mode is, killing four or five queens one day, and next evening, just before sunset, I take a queenless hive to the one I want to winter it with, smoke both well, take a few frames from stationary hive, fill up with queenless one, put on upper stories, put in the rest of the frames, sprinkle well with sugar-water, close up, and I am ready for the next. I have had but one swarm to do any quarreling, and that not to amount to much.

I have now in my honey-house two L. frames of honey taken from one hive that weighs 27 lbs. (who can beat it)? I took from one hive last season 7 frames that I extracted 59 lbs. from.

It takes about 15 lbs. to winter each colony. My hives will average now about 30 lbs. My plan is to let them have all that, and extract what is left in spring. Our bees stop working about the middle of November, and commence the first of February, and scarcely ever more than 4 or 5 days at a time that they do not fly out. I have plenty of drones flying now.

J. W. ECKMAN.

Richmond, Texas, Nov. 1, 1884.

Friend E., why do you double up, if the bees fly every few days? It seems to me it would hardly pay to double up for so small a winter, and then spread them out again so shortly afterward. Here in the North we are obliged to double up or have a great lot of our weak colonies "peter out." It is a pretty big job to double up 400 colonies down to 200, and it is another big job to increase 200 back to 400 again in the spring. The reason why we increase them here, or divide them up, is because it does not pay to take full colonies to raise queens, even if they were as handy to manipulate. Now, if we could be sure of wintering safely our queen-rearing colonies, it would save us a good deal of time and expense.

A VALUABLE ARTICLE.

Some Excellent Hints in regard to Ripening Extracted Honey, and Extracting Ripened Honey.

ALSO SOMETHING ABOUT RIPENING COMB HONEY.

I SEE that many bee-keepers complain of the extractor throwing honey over the top of the can, and that you offer a new rim intended to prevent this, free to all who are thus troubled. I think you would have to furnish one for every one of your extractors now in use, if the purchaser should try to extract much honey after cool weather has set in, especially if the honey is well ripened.

I use the Dadant plan of tiering up for extracted honey almost altogether; and I may remark right here, that I do not think a really first-class article of extracted honey can be produced in any other way, to say nothing of the numerous other advantages the plan presents. Where there is a late fall crop, though, the apiarist must be careful to get the extracting finished before cool weather sets in or he will be troubled with the honey flying out of the extractor in a fine spray, or be obliged to leave a great deal of the honey in the combs, unless he takes the precaution to warm the honey before extracting. I have no doubt that all who have complained of honey flying over the top of the extractor, or remaining in the combs at the rate of a pound to each comb, have been trying to extract honey that was too cold.

In the winter of 1881-'82 I extracted several barrels of well-ripened honey at a time when the temperature averaged 5° below zero. I did it by placing the honey up close to the ceiling, and keeping the temperature of that part of the room at about 100° until the honey would come out easily. When this honey became cold it could be cut into chunks which would retain their angular shape for hours. I have some of this season's honey to extract yet, and am doing it at odd times when I have nothing else to do—on cold days when I can not work with the bees, for instance, I warm it by hanging the combs in my comb-honey room, which I keep heated as I will describe further on.

RIPENING COMB HONEY.

Most apiarists and connoisseurs of honey are aware that honey taken from the hive as soon as sealed does not compare in quality with that which has been allowed to remain on the hive for some time to be ripened by the bees. Not only that, but unless stored in a warm dry place, this newly gathered honey begins to deteriorate as soon as it is removed from the hive. It readily absorbs moisture from the air, becoming thin and sometimes sour, while often the honey granulates in the cells. All unsealed and broken cells leak, making the packages unattractive to the eye, and disagreeable to handle. Sometimes, even, so much is absorbed that the caps burst and the honey is utterly ruined in appearance. All this might have been prevented had the honey been first properly ripened and then properly stored. We can not allow comb honey to remain on the hive to ripen, because this spoils its appearance, which in the market is worth even more than quality. Artificial ripening, though, is much better than no ripening at all, and in many cases would add fully 10 per cent to the selling price.

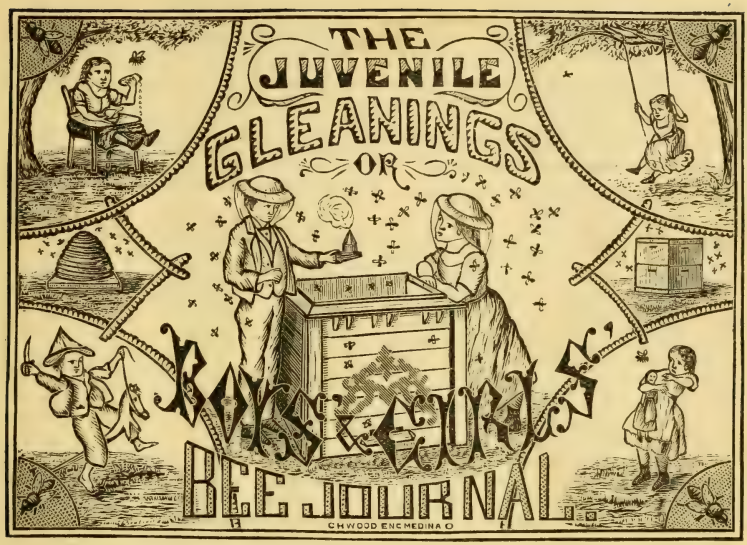
Mr. Doolittle has told us how he ripens his comb honey by storing in a room which for several weeks is kept at a temperature of from 80 to 100°. By this means the honey is improved in quality, all unsealed and broken cells evaporated, so that there is no leakage, and the capacity to absorb moisture materially decreased. I think, though, that very few honey-producers follow this plan, because they think it too much trouble; and my object in writing this is to show how easy it is to ripen honey in this way. My comb-honey room is about 4 x 9 ft., x 7 ft. high, the honey being piled on shelves as near the ceiling as possible. For the last three years I have heated such a room by means of a large oil-lamp. This will easily keep the room heated up to 100°, and the temperature may be kept so uniform that I have used it as a place for hatching queen-cells, the cells being put in cages, and stacked up so that a glance would tell when a queen had hatched.

The expense of keeping a room heated in this way is insignificant, and the only care or labor required is to fill the lamp every day, and trim the wick morning and evening. I was afraid at first that the odor of the oil might injure the honey, but have not been able to see any ill effect. I would caution all, though, to use good oil, and to keep the lamps clean, and the wicks well trimmed. Of course, to keep the room warm in this way in cool weather it must be made very close. It should be built inside of a larger room. Mine has no provision for ventilation, except through a keyhole and the cracks, and I do not think any thing more is needed, except to open the door for a short time two or three times a day.

In warming up honey for extracting I have used an oil-stove in order to warm up the cold honey a little more quickly than the lamp would do it.

Dayton, Ill., Oct. 20, 1884. J. A. GREEN.

Friend G., we are very much obliged indeed for your exceedingly valuable communication. Although it is in the same line with what our friend Doolittle has written, the friends will notice that you give us many additional facts. Since you speak of it, I feel satisfied that such a room as you mention would, by a little pains, be made so as to answer perfectly in place of a lamp nursery. The expense would not be so very much more than the expense of a lamp nursery either. We shall be very glad of reports from such rooms made to answer the purpose of the lamp nursery. I have sometimes thought that the odor of the coal oil was detrimental to the young queens; but with a room so large as you mention, and with the lamp cleaned twice a day, as you suggest, I think there would be no trouble. Our friends should be very careful in filling such a lamp, not to run it over. Perhaps some of you would do well to let your wives give you a lesson or two in regard to keeping lamps bright and clean.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

WHO IS MY NEIGHBOR?—LUKE 10.29.

AT one of our prayer-meetings the other day, one of our recent converts was leading, and he read the chapter containing the text, "Thou shalt love thy neighbor as thyself." He made the remark, that most people seemed to think it is a pretty big task, and that it is a big task, too, where our neighbors are lovable. It is not so very hard to love the baby of the household as you love yourself, because he is lovable and innocent. Where is the child who would not take more pleasure in giving the baby a taste of a nice apple than in eating the apple itself? If the baby were in danger, you would risk your life in a minute, any one of you. Suppose he got his clothes afire, and was in danger of burning up, and that if you tried to put it out you would be likely to get afire yourself, and may be get burned up, would you hesitate an instant? To be sure, you would not. If Jesus had said, "Thou shalt love the baby of the household as thyself," you could answer back, "Why, we do that already. We love him even *more* than we love ourselves, and we would even lay down our lives for him in a minute." If the baby had the earache, and mamma had the power of taking it away from him, and giving it to some of you, you would all call out at once, "Mother, let me bear it;" "let me bear it."

Well, the young man who led meeting did not tell all I have told above, but he did say that Jesus not only called us to love all kinds of neighbors, good, bad, and indifferent, but to love them as we love ourselves. Nay, further; he said we should love the ugliest and meanest and most disagreeable neighbors that anybody ever had; for he said, "Love ye your enemies; do good to them that hate you, pray for them that despitefully use you." Is it not a pretty hard task he has given us, my little friends? Well, there is this pleasant thing about it: Even if we don't succeed in doing all he has said, he is always pleased to have us keep trying. In fact, I have sometimes thought he took the "trying" as if we had done it; and the happiness we enjoy here in this world depends greatly on the energy with which we try to love our enemies and to do good to those who hate us.

Of course, Jesus didn't mean that we should feel toward our neighbors to treat them *exactly* as we treat the baby, for your neighbor would not want you to give your property without an equivalent, or to take up duties that belong to him. The great point before most of us is, that no wrongful selfishness should be shown toward our neighbors. We should not have any desire to beat them in a bargain, or to have a penny's worth of any thing that is justly theirs; and that, when differences come up, we should be just as eager to let them have the better end of the bargain as to have it ourselves. When a matter comes up in regard to something that can not well be divided, Christian courtesy should lead us to give them the preference, or the better half. One at first thought might be inclined to say we should soon make ourselves poor by this course; but practice has demonstrated that it is the best way in the world for a man to accumulate property, besides being in accordance with Christ's teachings. Now, when you have an opportunity, try it and see if I am not right about it.

I think I will make this "Our Neighbors" short this month, for I give below such a long talk about being useless.

MAKING YOURSELF USELESS.

SOMETHING ON THE OTHER SIDE OF "MAKING ONE'S SELF USEFUL."

THE head of this article I have borrowed from an editorial that appeared some time ago in the *Sunday-School Times*. It attracted my attention because it seemed so singular. The idea conveyed was, that we should strive to do our work in such a way that it will go on, even though we are withdrawn from it. Almost every one knows what it is to employ hands that must be watched constantly. That is the way we have to do usually in employing young people. We can not give them general outlines and go off and leave them to finish the work as we would an older person. In fact, men who can be set at work and left, with the consciousness that they will do their work all right, even in your absence, are not very plentiful; and when found we usually have to pay pretty well for their services.

Now, then, before we complain very much of older people who won't do any thing right unless you are with them, let us see if the fault is not a little with the employer. The next time you are troubled in this way, ask yourself the question if your work has been planned and laid out with such system that almost anybody could, with a little showing, go ahead and do it right; that is, can you so direct things to those who are working for you that your presence is not needed? or, can you make yourself *useless?* When you can, then a great field opens before you.

Children often have to be watched constantly, because a system of training was not commenced in their infancy, and carried out with such thoroughness that the parent in a little time is comparatively useless. Some children will go into a store or factory, and the parent must not only be constantly by the child's side, but is almost obliged to hold his hands to keep him from destroying property, or from destroying himself. Such a parent has not learned to make himself useless when necessity demands. Suppose it is your business to make machinery. Who wants to buy a machine of you, if it won't work unless you are there to run it or tinker it up every day or every week? If we want to be useless, or capable of being elsewhere, we must do our work so well that it will stand without watching and tinkering. We ought to have made our extractors so perfect that none of the friends would have to write back to us because they were sprinkled over with honey in the form of dew. The man who writes a book should make it so plain and complete that the reader won't have to write back to him to explain something that was left too obscure for the average mind to master. The book should be so complete in itself that the writer is useless to the reader. When a missionary goes into heathen lands to establish schools and churches he should aim, if possible, to have the foundation started in such a way that, if he is obliged to go back home, or death takes him away, the good work will go on; that is, he should not be necessary to the prosperity of the little colony. To do this he must keep self out of sight, and let the spirit of the Master rule and teach.

A young friend of mine who had recently united with the church, wanted to go out for a little ride on Sunday afternoon, after he had been to church. I was consulted somewhat in the matter. Instead of deciding such a case for him, I thought it would be better for him to learn to decide for himself, or, rather, if you choose, that he should inquire of his new-found Lord and Master, rather than of my poor self. In the one case he would have God's wisdom to guide him, and in the other only that of a poor weak and erring specimen of humanity. He went; but I was rejoiced to have him tell me the next day that he had not felt satisfied over it, and that he had resolved not to go riding any more Sundays. I had no doubt helped him somewhat in seeking the Savior, but it seemed to me the sooner he could be taught to seek for the promptings of the still small voice, so that, whether I was present or absent, he would, *of his own accord*, choose the straight and narrow path, the better it would be for him. You see, friends, if a man gets into the habit of thinking that no one else can do any thing *right* for him, his work must be to a great extent confined to that which he does with his own hands. But if he makes it his constant study to develop ways and means by which people may be set at work, making himself for a time useless to them, then he can go on starting one individual after another, until he furnishes employment for hundreds or may be thousands.

Now, friends, to make a practical application, we who are heads of families ought to try to make ourselves useless. How many times do you see children that won't behave unless father or mother is present! Sometimes they obey one and not the other; but children properly brought up should behave themselves whether the parent be present or absent; that is, their training should be such that the parent becomes, for the time being, useless. In business matters we should aim to make ourselves useless in the same way. Your business should be planned and arranged, and your wife should have a knowledge of your affairs to the extent that she should know what to do if you were absent on a journey, or delirious with typhoid fever. In this matter of attending to correspondence especially, some one in the household should be able to read papa's letters, and give some kind of an answer to them. In fact, his good name and his value to society and community depend upon this. If everybody knows that any thing directed to John Brown will have prompt attention, winter or summer, John Brown's value as a business man and a capable man comes up at once. Important business may be safely intrusted to him, and good pay invariably follows the one to whom can be safely intrusted matters of importance. Whatever department in life you undertake should be, as soon as possible, put into such shape that it will go of itself. If you make a specialty of any particular crop, have that article on hand, winter and summer. Have prices marked on it in plain English; have somebody instructed to look after customers, and take care of sales, whether you are away off in the fields, or busy with somebody else. If you sell honey, have honey always ready in every kind of packages people seem likely to call for. Have the prices on it in plain English; make every thing so handy and ready that your wife can attend to the whole of it, without disturbing you; or if she is busy, one of the children. Do not be discouraged if they do make blunders for a while. Teach them to be useful, with the end in view that you may be use-*less*, especially when somebody wants only a pound of honey or a dozen cabbage-plants.

A few days ago a neighbor told me that a relative of his from a distance had called to see me several times during the day, but I was absent, and he had to go away without making his purchase. What do you suppose he wanted? Why, a couple of queen-bees! and cages of them were piled up on the queen-clerk's table, waiting anxiously for customers. Said I, "Why, my friend, why did he not tell any clerk in our whole establishment that he wanted a couple of queen-bees?"

It seemed to me the man was greatly at fault for not asking somebody for what he wanted, and I was almost inclined to be vexed; but there was a lesson for me. Do you want to know what it was? It was this: Last winter I decided that each clerk should have a plain card, or sign, over his table, reading like this: "Queen-Clerk's Desk;" "Express - Clerk's Desk;" "Subscription-Clerk's Desk," and so on, that customers might know exactly where to subscribe, to purchase a queen, or to ask about express business. I thought of it, but never got at it. Another thing, there ought to be an usher in our establishment during the busy months, to welcome every visitor, and inquire after his wants. If he wanted to see me, this usher could tell where I was engaged, and inquire after the nature of the business.

I was amused and pleased by reading a little circular from our friends Tillinghast, who advertise in this number. Two boys took up a hobby of raising cabbage-plants. They studied up the subject until they had cabbage-plants at their fingers' ends. They had them out in the garden too; and when they succeeded in getting so many nice ones that the neighbors all laughed at them to think they were so foolish as to suppose they would ever get customers for so many, the boys got a lot of little boards, and painted on them, "Only 1½ miles to ——, where nice fresh cabbage-plants can be had for 50 cents per 100." They posted these all over the country; and one rainy day when the season happened to be just right for them, customers poured in from every direction to such an extent that they sold out every last plant, and went to bed with so much money in their pockets that they hardly knew what to do with it. Another point: In building up their business, these boys usually managed so that no customer ever went away empty handed. Do any of your customers ever go away empty handed?

Now, then, whatever you have to sell, let everybody learn, by years of experience, that if they go to you for it they will always find a nice article put up in nice shape, ready to set right into their wagon or buggy, and that the article is in plain sight right where they can go and get it—that is, if you don't happen to be there. Keep up the reputation of your goods or products; do not get out; if it costs you twice the value of the article, keep it in readiness; and when you go away, be sure that somebody is on hand to wait on customers, that your business may be built up without the necessity of your being tied down to it individually.

Shall I tell you what we do in the counter store in this line? Each article has a little box, or a division, made in the counter. In the bottom of this box the name of the article is written, price singly, price by tens, and by hundreds. A printed gummed label is right by the side of this article, telling where it was bought, when, and how many. As soon as the article is gone, a printed card takes its place, reading, "Sold Out." When the clerk whose business it is to order the goods notices this he knows how many he ought to order, for the record in the box shows something like this: "We bought 100 of them of Smith & Brown, the 10th of June." It is now the middle of November, so it will be safe to order about 200 this time, as we aim to order, as a general thing, about as many of each staple article as we may reasonably expect to sell in a year. The clerks who have charge of the counter store, however, are instructed to give notice a little before any article is out, that the sold-out card may never show itself unless some trouble or delay occurs in getting a new supply. Clerks also have instructions to order of two different establishments when any article seems to be going with unusual rapidity, to prevent the annoyance of being "out" at an inconvenient time. Thus, you see, clerks exercising a reasonable amount of care can carry on the business without my personal or constant supervision; and the results attained by such a record are, that we rarely ever order too largely of any one thing, and also avoid the expensive and annoying way of being obliged to order the same thing every week or two; for by getting enough to last a year at a time, we not only get goods by freight, but get low rates for quantities.

Of course, you can not adopt exactly the above plan in your business; but I do think, my friends, that a great many of you could, with much pleasure and profit, make yourselves useless in many ways. Mamma, who has perhaps the hardest and most trying task on her shoulders of any member of the household, should be able, with your help, to make herself a little more useless than she now is. The younger ones may be taught to relieve her by being more useful and more trustworthy. They will be happier by being more useful, and she will be happier by being more "use-*less*."

A few days ago the young man who has charge of our apiary wanted to know what wages I could pay him for next year. After we had talked the matter over some, he named a price considerably higher than I expected to give. When I demurred, he asked how much I would give him if he wintered our 200 colonies without loss, or with the loss of not to exceed half a dozen colonies. I told him if he would do that I would pay him the price he wanted. He decided to do it. Of course, I was to give him all the granulated sugar he wants, good hives, and let him make the colonies as strong as he thinks they ought to be. He has managed extremely well since he has been with us, and I think likely he will come out all right. Do you see the point we are coming at now? For the time being the responsibility of wintering the apiary is lifted from my shoulders, and I am useless; or, in other words, I have more time to devote to something else or somebody else; and he on his part has gone to work with renewed vigor and energy, because he has a new responsibility—a powerful incentive to watchfulness and painstaking. He has right hold of the bees—is in close contact with them, so to speak, and I am out of his way. Different departments of our establishment are getting, as the years pass on, into the hands of trustworthy and capable friends, as in the case above noticed; and don't you see this is an absolute necessity, that I may get around and inform myself, that I may be able to give you the journal you ought to have? Now I can go to Canada, or to New Orleans, or perhaps to California, and the bees are cared for by some one who has shouldered the responsibility; and by and by, when God shall call me away from my field of labor here, and from the friends I have learned to know and love, different ones will have been so accustomed to the responsibilities of their departments that the work will go on, even though I am no longer with them; for God has helped me to make myself no longer a *necessity* to its welfare and to your welfare, and to that of rising generations.

HONEY FROM THE LOCUST-BLOOM.

Its Excellent Quality.

ALSO SOMETHING FROM THE APHIDES, AND A WORD IN REGARD TO THE SALOON BUSINESS.

AS I haven't troubled you lately, I will ask you to take time to scan this. I got a very good crop of locust-bloom honey, and a very *bad* crop of honey-dew or bug juice. The former is the nicest and best honey that I ever saw or tasted, while the latter is, to my taste, very disagreeable; yet, I have found customers for it at 15 cents per lb. J. Wright, Esq., a banker of this place, and the Hon. J. W. F. White, of Sewickley, have each purchased 50 lbs. of the dark stuff, and pronounce it the finest honey they ever tasted.

I suppose the "Home of the Honey-Bees" has changed somewhat since I saw it. If your town had some of the advantages that ours has, you might boast of progress. I was amused when I went to the American House, and was lighted to my room with a lamp; but this is one step further than the tallow candle. We have here natural and artificial gas. The people of Washington have their houses heated and lighted up with the gas. They also use it for fuel in their stoves. As there are numerous wells being sunk, and plenty of it burning up that is not used, I opine that gaslight ere long will be as cheap as daylight.

I was in eight counties in your State, and did not see a place that saloons were not kept, while in our county not a drop of any kind of liquor is permitted to be retailed. I do not wonder that you are in favor of prohibition. A great many send their children to our town to be educated, on account of the influence to evil habits being lessened by the sale of strong drink being prohibited.

Leroy Vankirk.

Washington, Pa., Oct. 30, 1884.

Friend V., I am glad to know there are a few who like the aphis honey, and the hint may be worth something to those who may have it on hand, and I hope they may go to work so as not to lose on it.—We should be greatly rejoiced here in Medina if we had natural gas, sufficient for hotels and other places to use it; but I tell you I should rejoice more if the four saloons that hold sway here were made to die a natural death by being made to starve out. We rejoice to know there is at least *one* county in Pennsylvania where not a drop of liquor is sold.

A SEASONABLE ARTICLE.

WRAPS.

"LOOK at Lizzie Brauson, with nothing around her," and there she was riding gaily along in a fierce north-west wind that chilled the marrow in one's bones, if not well wrapped up, with not a single wrap, and riding horseback too.

It was just schooltime in Ipava, and the children from town and country were gathering in, and I could not help noticing the different looks of the children—some so blue, with chattering teeth, wrapped up in a scarf, while we, who had come four miles, facing the wind, were snug and warm, with not a single shiver. But then, Minnie had on her water-proof and her pa's thickest overcoat, and a warm hood, and we had hot bricks to our feet; and as we rode leisurely along I gave out Minnie's physiology lesson while she drove, and we were as comfortable as if at home; and when I see children all blue and pinched all along the road, as I go and come, I get mad—not at the children—no, indeed, but at the children's mothers. Why don't they see to it that their children are warmly dressed and well wrapped up. People with plenty of money to buy farms, and put up big barns and fine houses will send their children forth like shorn lambs in the winter's storm, and then wonder why they get sore throat and croup. It makes me feel like the woman that the good brother was talking to. He tried to get her to commit herself to something; but she believed neither in the Trinity, the Godhead, nor the saving grace of Christ. "Well, sister," said he, "what do you believe, any way?"

"Well," said she, "about the only things that I really believe in are buckwheat cakes and sausage." So to-day, if any one should ask me what my creed is, I would say warm flannels, and plenty of wraps.

Vermont, Ill. **MAHALA B. CHADDOCK.**

I suppose, Mrs. C., when you wrote the above you thought that "a stitch in time saves nine." Well, I think I agree with you. A few days ago I fell to discussing with myself as to which is the greater evil—to take my overcoat along when I did not need it, or omit to take it when I did need it; and after experimenting several times I concluded by all means that the greater evil was in leaving it at home; for if I did not need it, I could carry it on my arm, or leave it somewhere temporarily; and I finally concluded, even if it got lost I would buy a new one sooner than to have such colds as I have sometimes contracted by omitting it. It is an excellent thing to have children toughened by exposure to the open air daily; but, let them be properly protected while they take the open air. If one is going to have violent exercise, let him take off his wraps; but the minute the exercise is over, get them right on, and that speedily. Poor little Huber is just recovering from a cold that was almost if not quite lung fever, and he got it by going with papa out in the night to see the stumps "burny burn." Mamma objected at the time; but baby and papa overruled, and the above was the consequence. The doctor told us that the number of deaths among children was fearful, and that the sight of saddened homes and bereaved families ought to be enough to teach parents lessons; for the saddest part of the whole of it was, that these deaths among the little ones could almost always be traced to improper food or clothing. Now, then, ye mammas, and papas too, remember that at this season of the year a very little imprudence or heedlessness may lay that precious little form cold and silent in death. You can not plead poverty, for flannels are cheaper than doctors and physic, and you will have to pay the bill one time or the other.

A BOY WHO WANTS TO WORK.

WHAT SHALL HE DO?

A MAN of such varied experience becomes fruitful in invention. What is there I can do to earn enough money to buy a buzz-saw and an extractor, in time to get my bees in prime working order for the opening spring? This town is stagnant; tradesmen scarcely make the enormous rents demanded during the summer months; depend upon the busier winter months to equalize matters. With several large, fine churches, there are no congregations; 3 large school buildings, said to be improving, since the war times so depleted them—perhaps! There are 5 flourishing saloons, out of one of which I counted 15 empty barrels rolled out, as the months' work therein. Why do I remain in a place so ineligible? My mother is compelled by circumstances to live here, and I, her only remaining child, can not feel justified in adding another trial to those from which she has scarcely recovered, against her known and often reiterated desire to have me with her while she lives.

When the Bermuda grass brought postals calling for seed, I thought perhaps here was an opening; but upon consulting one of our druggists, Mr. S., a Philadelphian originally, but having had many years' experience as a farmer in this country, I saw the futility of my hopes from that quarter, as the seed does not mature well here. I might have husbanded my resources, etc., at the beginning of the bee business; but lacking experience, I walked according to my light; and now I am anxious to begin the spring profitably, increasing my apiary as it now stands, until it becomes remunerative. Lumber and freight are heavy items with us; still, with an income and energy much may be overcome, and I propose to know no such word as fail, and I feel confident of building up and making a fair support, if I can only manage to get the foot power saw and extractor.

The American silver watch I got of you some time ago has been running steadily over two months, and has not varied more than a minute in that time. I am well pleased with it. **C. H. C. HOPKINS.**

Port Gibson, Miss., Oct. 30, 1884.

Friend H., you have struck upon *the* great problem, so it seems to me. Thousands of people are wanting things; and especially are tools wanted with which to work, just as you want your buzz-saw and extractor; and the question is, How shall they get them? I think I can tell you how you or any one else can manage it if you are willing to take my advice, and I have watched boys and girls for a good many years. I think I have had experience enough in the matter to know about it. In the first place, you want to go to work. If work is scarce, work in finding it; and when there is nothing better on hand, work around your home. People who want to hire are greatly in the habit of going for busy men, and they are very sensible in it too. Go to everybody you know who employs men; take up with any kind of a job or any kind of pay, rather than remain idle. When it becomes known in your neighborhood that you are willing to "tackle" any thing, there are enough who will want you. Put away all foolish ideas about pride; do any thing that is respectable. Of course, you wouldn't sell beer at any price; but of course you would clean out hog-pens, cisterns, and the like, whenever such a job offers. Do your work well. If you are not very strong, and can not do a man's day's work, get your employer to let you work by the job; then try to have every one you work for pleased. Do not be discouraged, but make up your mind that you are going to conquer difficulties—that you are going to conquer the people in your vicinity, if that is the way to put it, and that you are going to conquer circumstances, God being your helper. When a boy or man gets right down to work, and holds on until he can see things improving before him, the task grows easier and easier, and pretty soon, instead of no one having any faith or confidence in him, everybody will begin to have faith and confidence, and work pours in upon him, with good pay, more than he can possibly manage. Nothing in this world helps like having a Christian spirit back of it all—a faith in God and trust in the Savior. Then get up early in the morning, and come down to business, rain or shine; and in due time, if you faint not, mountains in reality shall give way before you. Yes, you can buy the buzz-saw and extractor, and have some money left, by the time the season opens next year.—Our stenographer adds, that "empty churches," "stagnant business," and "empty beer-barrels" generally go together.

THE TOBACCO COLUMN.

A LADY'S CRITICISM IN REGARD TO SOME FEATURES OF THIS DEPARTMENT.

BEING a little amused and a good deal vexed at some of the letters, such as, "I have used the weed for five years, and am now obliged to quit, and if you think I deserve a smoker," etc., I send a letter, *not* begging a smoker, but hoping to show how it sounds:

THE LETTER.

Mr. Root:—Heerin as how you give away smokers to everybody that had smoked till they had got sick and quit I want to send in my name. I am one that has used the weed for upwards of 35 years and now it has about got away with me. Yes Mr. Root I am about played out. That is I hev got the dyspepsy so bad that the doctors say I must quit tobaco or die and that at the best I wont last long. Now you know Mr. Root that 1 aint mercenary but the widder Mr. Root is what I look at. And so I say that bein as I hev used it so long you ought to give me a smoker and a picture (cromo they call em) If you will do this I will quit if not I might as well keep on for the few days I live. I know it is askin a good deal but in these days of prizes I hold a feller ought to secure all he ken get for his widder.

What little man there is left, seems to me, to deport in the appeal to be *paid* for doing a *plain duty!* We all like your monthly, and I suppose you know that we grind our coffee on one of your mills, and light your matches from a luminous safe, and let the baby ride on a wheelbarrow from Medina, or at least from you. But, enough. MRS. C. E. MARTZ.

Mortinsville, Ill.

Thank you for your kind words and gentle reminder, my friend; but, are you not just a little uncharitable? I know there is always danger of going too far in trying to hire people to do right; but yet I believe that missionaries, ministers, school-teachers, and humanitarians in general, agree that presents rightly employed are a great lever to draw people's attention, and get them to move, even when they know their duty perfectly well and plain. This giving smokers was started as a bit of pleasantry; but it seems to me you must admit, that God has used it as a means of accomplishing great good. While now and then some poor friend has made mention of poor health, and that it was caused by the use of tobacco, a great majority of those who have taken a smoker as a reminder of their pledge have been abundantly able to pay for a wagonload of smokers, if they had wanted them. You see, giving them a smoker to be paid for if they ever break their pledge makes it an easy burden to bear, and it is also a bit of business transaction. No one gets an idea that I am trying to drive people into my ways of thinking. We have now quite a little band of those who have given up tobacco for a smoker, and a great many of them, probably, would not have listened to any other proposal. Among them are prominent lawyers and doctors and divines, and I feel greatly obliged to them for the encouragement they have given us in entering the lists. The smoker is a sort of object lesson, as I have told you before. It secures attention; gets people to thinking; and almost any teacher will tell you that when he has got the attention of his pupils, and has set them to thinking, his work is more than half done. While I write these words a great political contest is going on. Things are bad in many respects—very bad. Now, we do not want to get the people all up by the ears, and get them stubborn and ugly, and ready to fight. We want to have them fall in line and go to work good naturedly and pleasantly, even though their opinions be widely different. I do not suppose I could make the smoker business work in politics; but if some other simple trifling thing would divert the attention of these vast multitudes, and get them to smiling pleasantly and good naturedly at their opponents, I think a great good might possibly be accomplished.

TWO LITTLE SISTERS.

THE WAY THEY MANAGED WHEN MAMMA WAS GONE.

THEY rode before me all the way to town yesterday; and brighter, or more cheerful and neat girls I don't often see. They had hitched the old gray horse to the buggy, and, with their new winter hats and bright shawls, their red cheeks and sparkling eyes, they made a very charming picture indeed.

They were having a merry time too. I could see them smiling and nodding to each other, and every now and then their happy laugh rang out; they drove up to their grandmother's, and she came out and talked to them a few minutes, telling them, I almost know, to be careful about the horse, and not let it run away with them. Then she tucked the lap-robe closer about them, and they went cantering on.

The names of these little sisters are Ruth and Maggie Cadwalader, and they live in a big white house close to the road where I drive along four times a day.

Three months ago their mother died, and left a house full of children. There are big brothers—big enough to run clover-hullers; and little brothers, so little that it takes two of them to lift a fence-rail and lay it on the fence; and there are Ruby and Lizzie, who go to school; and last and least of all, there is the baby; and for all these and the father, these two little sisters have to do.

Before the mother died she called the children to her and talked to them one at a time, and told them how to do, but to Ruth and Maggie she gave the charge of the baby and the welfare of the family; and after she had told them every thing she turned to a friend who was near, and said, "I am going away, and the girls are young; they may forget what I tell them; but, you will see them often, and I wish you would remind them if they seem to forget."

But, they will not forget; they may forget a good many things; but the words of their dying mother, never. And all this pleasant autumn weather, as I go and come, I see them at work on the long south porch. Monday morning, when I go by at 8, they are rubbing away and putting the things through the clothes-wringer, while the baby climbs up the tubs and holds to every thing; then when I come back at 10, the white things are all on the line, and no girls are to be seen. But I know where they are. They are in the kitchen, cooking dinner for the men-folks who will come in presently at the sound of the dinner-bell. When I go along again at 3 o'clock the washing is all gone, and the tubs put away, and one of the girls will be sewing on the machine, while the other sits a little further away, basting or working button-holes, with the baby playing at her feet. Sometimes I see one of them churning, with the baby in her lap; and once I saw them out in the orchard, and the baby was there too. Always the two sisters, always the work, and always the baby. Do you wonder, then, that I felt glad when I saw them taking the ride yesterday, and resolved to tell the juvenile readers about them?

Vermont, Ill. MAHALA B. CHADDOCK.

BEES' TOOLS.

AND SOMETHING ABOUT THE WAY THEY HANDLE POLLEN.

I'VE seen men at fairs selling a tool which they praised as being good to use as a corkscrew, screwdriver, knife, and file, all combined in one. It was a sort of "jack at all trades," and, like that renowned individual, good at none.

But the bee has a wonderful implement which consists of a basket, a brush, and a pair of pincers. In this basket, the bee-bread is carried, which the bee loads up as she finds it, and puts the honey into her honey-sac. Along the rim of the basket are rows of very fine hairs which form a brush, which the bee uses in brushing from her velvet gown the pollen-dust into the basket. The basket has hinges, and can open and shut, forming a pair of pincers. These are used in pinching off the scales of wax from the under side of the bee, and carrying them to its mouth, which is used as a kneading-trough, where it is worked soft with saliva, and built into comb. Is it not wonderful, that the beautiful comb can be built with the aid of the mouth and hind legs of the bee?

How many ways these tools of the bees are used! This basket, brush, and pincers, are used to walk with too; the hind legs are used as hands and arms; as the bee has six legs, she can spare them for arms. When the bee comes home loaded with pollen or bee-bread, she can run her legs down into the cell, and rub them together, knocking it off, and I wonder if she doesn't pack it down by jumping up and down on it, as it is said the Dutch girls do when they hop into the kraut-barrel, and tramp it down with their feet.

Did you ever think why it was that the bees build separate cells to hold the honey, instead of one great big one? The bees were sealing up their provisions in air-tight cans, long years before people ever thought of it. Have you not seen your mamma canning fruit? Why does she put it into small cans, instead of large jars? She will tell you that it will not keep long when opened, and uses small ones so it will soon be eaten up. So the bee can open one cell, and eat it up before it has time to candy or sour. The Psalmist says, "O Lord, how manifold are thy works! in wisdom hast thou made them all. The earth is full of thy riches."

Peoria, Ill. MRS. L. HARRISON.

About that load of pollen, is it not this way? When the bee marches in with his load he pompously parades his prize all over the hive for a time, but finally concludes he had better put it away and go after more. He slips it off about as quickly as a one-year-old baby will kick off his shoes and stockings, and in much the same way. He puts both hind feet into the cell, and then you can see a kind of kicking, and off he goes, free of his load. The pollen-loaves now simply lie in the bottom of the cell; and if you tip the comb over, the loaves will fall out on the ground. But presently one of the nurse-bees comes along and pokes her head into the cell, and stays quite a little time, very busily occupied in doing something. Now, when this nurse-bee backs out and goes off, the pollen is packed down smooth and hard, and I do not know how else she can get it in that shape without pounding it down with her smooth and shiny head, and it seems even then as though she hadn't power sufficient to do it. Probably she sticks her "toe-nails" into the walls of the cell while she punches the pollen down to the bottom. and then pounds it in hard. Who can tell us more about it?

A HINT TO THE JUVENILES.

FROM ONE WHO LOVES THEM, AS WELL AS ALL OF GOD'S CREATURES.

EVERY created thing that has animal life bears witness that it comes from a loving, compassionate Creator. They all enjoy life in their own sphere, and hence none are so constituted that they must of necessity lead a life of misery. The earth has an atmosphere that is essential to animal life. The tiniest mote that floats in it has a natural right to breathe it. Man, judging from his surroundings before the Fall, had it in his power to enjoy life to the extent of his capacity for enjoyment; but, oh the sad, sad Fall! The Creator gave man dominion over the fowls of the air, the fish of the sea, and over every thing that moves upon the earth; and we, being rational, intelligent beings, there is a moral responsibility running parallel with this universal dominion.

I suppose we may kill dangerous animals, poisonous serpents, the cabbage worm, the Colorado beetle, and all that class of depredators, in self-defense; but we should not wantonly take the life of any creature, nor cause unnecessary pain. We have divine authority to kill animals as innocent as the lamb, for food; but we should kill them outright, not torture them to death. When I see an able-bodied man armed with a double-barreled gun go out into the fields to make war upon the beautiful birds and other small game, I think he is committing a grievous sin, and letting himself down even to a level with the man who finds enjoyment in the cruel sport called "trap shooting." I would have the motto, "*Be kind to the lower animals,*" framed and hung upon the wall in every dwelling and schoolroom, thus keeping it before the minds of the children.

Hoping that the rising generation may be more humane than the one whose vacated places they are soon to fill, I remain— EDWIN STANLEY, age 86.

Wyoming, N. Y., Oct. 23, 1884.

JUVENILE·DEPARTMENT

Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows; viz.: Sheer Off, The Giant-Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

> "A chiel's amang ye takin' notes;
> An' faith, he'll prent it."

I SUPPOSE, little friends, you would expect that Huber would be a temperance boy, without doubt. Well, I think he will be; but Uncle Hen (that is Neighbor H.) jokes about the wonderful proficiency he shows in getting corks out of bottles and jugs. He will take his thumb-nails and take the cork out when almost anybody else would give it up. A few days ago he got at our jug of boiled cider, picked the cork out, and as he had been quite still for some time, his mother thought best to hunt him up. She found him dipping a clothespin into the mouth of the jug, and then letting the cider drop off into his mouth. Next time she wanted the clothespins she thought somehow they seemed not to hold out, and she went to the boiled-cider jug, and upon investigation found 21 clothespins in the boiled cider. Next day I found him with a bottle of ink and a pen and some paper, writing a letter. I knew the ink had been corked tight, and I pushed the cork in strong, and then watched to see how he managed to get it out. His thumb-nails did the business. He is getting now so he copies, or imitates, rather, what he hears. Two phrases seem to be common in our household. One is, "Oh my!" and the other is, "Wy ee!" He has got the two mixed, and his favorite exclamation is, "Oh wy!"

A few days ago he was out riding with us, and we did not get home until after dark. As we passed through town it was dark, and he was asleep. His mother said she would wake him carefully, without intending to see what he would say. As he opened his blue eyes, spread out before him were hundreds of torch-lights, moving like so many fire-flies, with bands of music accompanying. He looked a minute, and then burst out, "Oh wy! burny burn!" I suppose he thought the burning stumps were out on a spree. Whenever his mother hears "oh wy!" long drawn out, she runs to see what mischief there is under way. A day or two ago she heard it, and ran for the dining-room to see what called it forth. He had climbed up to where the ink was, got a bottle full, and, not finding any pen, he held up his hand, cup-shaped, and poured it full of ink. The sight of the ink in his little fat "paddie" brought forth the expression, and mamma was glad she got there just when she did. Now, may be many of your little brothers and sisters do lots of things funnier than Huber; and when you write next, you can tell us about it.

I wish to tell the children who write for GLEANINGS, that if they wish to make a nice scrap-book, they can have, instead of "stick-me-together," the gum from peach and cherry trees; put into a bottle, add a little rain water to dissolve the gum. This will stick paper together nicely. Apply with a small brush. You see, children, this is cheap, and easy to be had. This you can get without money and without price, and it is just as good as that you buy in town. Try it, but do not get it too thin.

Ashland, O., Oct. 23, 1884. A. H. BAUM.

A VERY SHORT LETTER.

I am a farmer-boy; my sister wrote you a letter a short time ago, and last night she got the book you sent her. I like it very much. W. N. BRIGHTMAN.

Granger, Minn., Sept. 1, 1884.

SUCCESSFUL WINTERING.

My papa keeps bees. He has 24 swarms. They came through the winter safe. We winter them out of doors. My father makes his own hives and sections. I do not like bees when they sting me.

CARRIE WILLIS, age 8.

Yocumtown, Pa., March 4, 1884.

THE RUNAWAY QUEENS.

Well, Uncle Amos, is your wheelbarrow empty? If not, I should like Silver Keys. My pa keeps bees. He got four queens from you; two of them went away, and took the bees with them.

Rockdale Mills, Pa. OLIVE E. GRAVES.

Friend Olive, the wheelbarrow is not empty, but we are just about out of Silver Keys. We have plenty of other books.

HONEY THAT WILL NOT CANDY.

In the spring of 1882, papa and Uncle Amos bought four swarms of bees. Increased to 14; took 50 lbs. comb honey, and 550 of extracted, principally from heart's-ease. Uncle Amos put some in bottles, without sealing, which he kept 18 months, without without any signs of candying. None of the honey we kept that season candied.

Quitman, Mo. NORA D. BEACH, age 8.

FROM THE LITTLE GIRL WHO GOT HER FATHER TO STOP USING TOBACCO.

I received the smoker all right, and like it very well, and I hope my father will never chew again. If he does, I will send you the price of the smoker.

LIZZIE A. HADLEY.

Greenfield, Ia., Oct. 13, 1884.

Well done, Lizzie. If all the little girls in our land were as anxious that their papas should be straight clean men, I shouldn't wonder if it made quite a difference with some of us.

UNA MAY'S LETTER.

My pa has 6 bee-hives; he says that this has not been a very good year for bees to make honey, but he got some very nice white-clover honey last June. When they swarmed, then he cut out the queen-cells and put them back, and gave them more room, and they stayed at home like good children, and went to work. I go to school, and help ma do the work night and morning, and I can play on the organ. UNA MAY SWITZER, age 12.

Bucklin, Mo., Oct. 1, 1884.

CLARA AND HER BROTHER AND THE BEES.

My brother had 14 stands of bees in swarming time. They'd swarm two and three times a day, but they would not settle. My sister and I hived them. One day I got stung. In winter a great many died. We haven't any now. We left them in Corry, where we lived. My brother spent all of the time he had with his bees. He would give me all the honey I wanted. I could hive them myself, if I tried. I've seen it done lots of times, and helped to do it myself. I don't like to get stung by them very well. CLARA CLARK, age 8.

Conneaut, Ohio, Oct. 26, 1884.

LOUIS' FIRST LETTER.

My papa and Mr. Moss are in the bee business together. They have not been in that occupation long, but both are delighted with that employment, and both wish to be successful bee-keepers. I have been going to school to Mr. Moss. His school is stopped. I have been saying lessons to Mr. Moss at home. I like to go to school to him. He opens school with prayer. This is the first letter I ever attempted to write. If this escapes the waste-basket I will try to do better next time. Mr. Moss takes GLEANINGS. I have the pleasure of reading it.

LOUIS TRAVIS.

San Augustine, Texas, Oct. 21, 1884.

A LETTER FROM A BOY 6 YEARS OLD, JUST AS HE WROTE IT.

I AM A littlE bo*y* SIX yEARS *old*. *I* AM VisItiNg My *G*RANd PA. My UNc*l*E kEEPs *b*EƎS. I hƎlP hiM wƎi*g*h h*is* hoN-Ǝ*y*. I hAvƎ 4 ᗺRo*thE*Rs *A*Nd I Sis-tƎR. M*y* UNɔ*l*Ǝ t*A*kEs GLEANINGS, AND *H*AS *th*E A B C *B*o*OK*. I ꞁiVE iN NEW YoRK Cit*y*. I AM goiN*g* To sɘhooI whEN 1 go ho*m*E. *S*EN*d* T*h*E booꓘ To pERcy S. VƎRMil*y*A.

242 WEs*T* 124Th St., NE*w* YoR*K* City.

And so you live in New York City, do you, Percy? Well, I suppose there are many opportunities for learning useful things there that we do not have out here in the country, and I hope you will always try to learn the useful and avoid learning the bad.

FROM IOWA TO FLORIDA.

My father keeps bees. About four years ago, when we lived in Iowa, father and I were coming home from town, and a swarm went over us, and father got out and followed them about one mile. Then they alighted, and we hived them and took them home, and then we bought one and they increased to six that year, and in two more years they increased to 20, and then we brought them to Florida, and five died.

FROM 15 TO 42, AND 1500 LBS. OF HONEY.

We started in this year with 15, and they increased to 42, and made about 1500 lbs. of honey.

ALVA TRUEBLOOD, age 12.

Archer, Florida, Oct. 25, 1884.

Pretty good, Alva. We trust you like your new home in Florida, where you can raise bees the year round, and not have such winters to fear as you had in Iowa. May be, however, Iowa has other advantages so as to balance or more than balance those of Florida. How is it? Where do you like it best —where you are now, or in your old home?

RAY AND HIS CHICKENS.

Father has 175 colonies of bees; the honey season was not very good with us this year. We live on a farm, and raise lots of poultry. I took 12 little chickens when they were very small, about two months ago, and brought them up without a mother. I have two sisters and three brothers. I am the youngest of them all. My eldest brother is 19, and he has the nicest little pony and buggy you ever saw. RAY H. ADDENBROOKE, age 10.

North Prairie, Wis., Oct. 24, 1884.

Well done, Ray. I feel a good deal of respect for any boy or girl who likes to take care of motherless chickens or motherless lambs, or one who likes to help any thing or anybody who is in trouble, and needs a mother. You see, you are mother to the little chicks, Ray, and we know you take good care of them, or they would not all have been alive at this time.

FROM 15 TO 40, AND 500 LBS. OF HONEY, AND HAD TO FEED 300 LBS. OF SUGAR.

We had 15 hives of bees in the spring, and now have 40. They all came through in the winter, without any dying. They did not do well this year. We made about 500 lbs. of honey all together, and had to feed back about 300 lbs. of sugar. We had only five that swarmed. My father got two swarms of a man who was going to smother them, and we put them in frame hives. How long does a good queen live? We could not get one to live more than two years. ARTHUR STORER.

Port Hope, Ont., Can.

Friend Arthur, your report is a little discouraging, especially the latter part of it. But, never mind; this has been a poor season.—Good queens usually live about two years; extra ones sometimes three, and in rare instances even four years. Poor ones live one year, or sometimes less.

POISONING ANTS, CRICKETS, ETC.

Brother George wrote to you about father's drone-trap, so I thought I would tell you about some other things I notice father does. The 10 colonies of black bees are all Italians now; queens are from an imported queen you sold J. W. Thornburg, near us here, except an Italian queen from Dr. Price, of Tampa, Florida. They have done very well for such a dry season. We had a very fine bloom of goldenrod and fall aster. It lasted but a few days, for want of rain. Father uncaps some comb when he looks into a hive, at the top of the brood-frame, so that the honey will run over the comb and stimulate the queen to keep on laying. They are strong colonies now, and have stores enough for winter. We got honey enough to pay for them when transferring them. Father sowed some buckwheat for them, then he scattered some lime on the buckwheat, and turned it under. When skunks are coming about the hives, father takes copperas and powders it fine, and sprinkles it in their runs. They leave every time he does it. For crickets he mixes some honey and arsenic, and pours it on top of the frame cover, and where bees can not get at it. We find the crickets dead near by it. This is new business to father. He tells us some strange things they did when he handled them in Scotland, 22 years ago; also about the good times they had migrating from the lowlands to the highlands in the fall, to get the heather honey, then back again before winter set in. JAMES G. LAMSON, age 10.

Lookout Mt., Hamilton Co., Tenn.

Thank you, friend James, for the valuable facts you furnish. I do not believe, however, I would recommend having such poisons around as copperas and arsenic, if it could be avoided. A great many deaths have resulted from taking poisons by mistake, or from getting into the hands of children.

HIVES IN TREES.

In Illinois, where my aunt lives, they have no trees, except what they set out. If they set hives up, a swarm of bees will almost always go into it. They put one up last spring in a small willow-tree, and a swarm went into it. They think there were more than one swarm that came, because they have great big sheets of comb stuck to the limbs all around the hive, and the combs are all covered with bees. NETTIE E. CRANSTON, age 10.

Woodstock, O., Nov. 6, 1884.

MAPLE SAP FOR THE BEES IN SPRING.

My papa keeps bees, and he likes them very well. He has 20 colonies of them, but we did not get much honey this season. Papa thinks that the sap of the maple-trees is cheap food for bees in the early spring when there are no flowers. He sticks a sharp-pointed knife in the bark, about five feet from the ground, and the bees gather it as it runs down over the bark. I have twin brothers. They were 8 years old this fall. ADA WERTS, age 12.

Russell, Lucas Co., Ia., Nov. 7, 1884.

THE CAT SNOW AND THE LITTLE CHICKENS.

My papa had 3 colonies of bees when he commenced, and now he has 20. I have a cat, white all but one ear, one spot on her side and her tail. They are black; her name is Snow. We have 14 little chickens just hatched, and they are very cunning indeed. I have four dolls, two are wax, and two are china. FANNIE B. MATHEWS, age 11.

Katonah, N. Y., Oct. 23, 1884.

I know, friend Fannie, chickens are very nice to look at, even in October; but, won't the poor things get their little "tozes" froze? Another thing, the nights are so long now they get hungry before it is morning. I suppose your folks are real careful, and feed the chicks just before they go to bed, and then the first thing as soon as it is light enough for them to peep. I should think you might do that, Fannie, can you not? and you are eleven years old, you know. I have heard of feeding young chickens by lamplight, when they were hatched so late in the fall. Now, be sure not to let the little darlings suffer.

A JUVENILE'S TROUBLES WITH MOTH WORMS.

I started last spring with five strong colonies. All were killed with web worm but one. I have it now. I have not had a pound of honey this year, and not one swarm, and so I have only one stand. Mother says that bees are a nuisance and no profit; but I think they are great amusement, and help to instruct boys in the knowledge of insects. I could sit all day and watch my bees, and never get tired. Father has taken GLEANINGS two years, and I would not like to be without it. I have your A B C, and think highly of it. I should like to be a large bee-keeper, but mother says she will not let me have more than five stands Can you tell me how to get the moth worms out of a hive badly infested? I have read A B C, and can get no information.

Mason, Tex., Oct. 28, 1884. A. H. AUSTEN.

Why, my young friend, if you have time to sit all day and watch bees, you certainly ought to be able to get rid of the worms, even if they *are* only black bees. You want combs movable, and then lift them out, and with the point of your knife just go for those worms, and make them sorry that they ever got inside of your dooryard fence. Some young Italians would do the work for you, but your black bees would have done it very well with a little help as above.—I am afraid you did not look carefully at the A B C book. Ask your mother to show you, and see if you do not find a great lot about these same moths. I am inclined to think you are mistaken in thinking it is worms that killed your bees.

THE BEES AND THE CIDER, JELLY, APPLE-BUTTER, ETC.

As soon as people began making jelly and apple-butter this fall, our bees entered the houses and carried away every thing sweet they could get hold of. Some neighbors did not know enough to keep things out of their reach, and in those houses they came in force and carried off every thing that had any sugar in it. In some instances the people shut up their houses and left the bees in possession. One woman left her apple-butter and preserved fruits exposed until her house was filled, then she closed her doors and windows, and brimstoned them. At a farmhouse near here I watched them making cider. The press was covered with bees eagerly drinking the juice; but the farmer and his son calmly worked on, mashing the bees by hundreds. When the bees came in the houses they would not sting unless they were pinched. Do you have such trouble in the fall with your bees, or what do you do to preserve it? Papa showed us a hive of Holy-Land bees that were carrying in pollen in great quantities to-day, while none of the others were doing any thing. He thought they were rearing brood, but could not tell, as they were packed for winter. CORA MAJOR.

Cokeville, Pa., Oct. 29, 1884.

I suppose the trouble was caused by the dry weather, friend Cora. As soon as there are blossoms for bees to work on, they pay but little attention to cider, and many times do not even notice it at all. In your case they got to going, and then it was hard work to break them of their bad habit. Had somebody who understood the matter gone around to the neighbors, and explained to them, and got them to cover up or put away every thing the bees commenced working on until they forgot it, or got off the notion, these troubles would soon have been over.—I should conjecture that it was a young queen where you saw so much pollen going in. Young queens often lay their combs full of eggs when other colonies in the yard have none, and then the bees must go out and gather pollen, or the brood would not ever get grown up.

OUR HOMES.

He shall not cry, nor lift up, nor cause his voice to be heard in the street.—ISA. 42:2.

A FEW mornings ago, as I came into the printing-office, one of the boys asked me if I was not afraid Ernest would get shot if he remained longer in Oberlin. Of course, I wondered greatly at such a remark, although I made up my mind at once, even if I did not say it, that I didn't believe Ernest would get shot anywhere—at least not at present. When I asked for an explanation, a daily paper was handed me. I give you the following extract of what I found there:

AN UNJUSTIFIABLE ACT.

OBERLIN, O., Nov. 7.—There was great excitement here last night over the reported election of ——. A crowd of men and boys built a large bonfire of straw and dry-goods boxes at the corner of College and Main Streets and then fired off anvils in lieu of a cannon. The crowd, numbering about 200, then started to serenade a number of —— leaders. After singing around Professor F.'s house for nearly an hour they surrounded that of the Rev. ——, on West Street, and furnished him with some free music. The reverend gentleman did not appreciate the serenade, and in return fired out of one of his windows four shots. No one was wounded, however, as the nearest shot only passed through the hat of one of the serenaders. A warrant for the arrest of Mr. M. was secured this morning, and he was brought before Justice Locke, and his bail set at $100, which was given by ——. His hearing was set for 10 o'clock to-morrow morning. He is a senior in the college, but has taken a leading part in the —— movement of this State, and by his actions in this campaign has brought upon himself the ill-feeling of a good many in this community. The authorities here expect to put him through for last night's work.

There is considerable excitement here over the —— shooting affair last night, and the opinion is general that he should be dealt with to the letter of the law. He was arrested on the charge of "shooting with the malicious intent to wound." There has been considerable feeling over the way in which election returns have been reported here.

This is a sad little story, dear friends. One does not need to be a Christian to decide that shooting is not the thing, especially for one before whose name there is now or may be attached the sacred title of "Rev.," or any thing else that would indicate connection with the Christian ministry. I have before told you, that whatever may be the discussions about the Christian religion, all the world knows pretty well what a Christian ought to be, and how a Christian should deport himself. Perhaps when called upon to explain, all the world would not be able to tell right off what a Christian should be; but I think if the words of our text were read, the world would, that is, in their calm, quiet, and reasonable moments, almost without exception, say, "Yes, that is exactly what a Christian ought to do. He should not cry out, nor lift up, nor cause his voice to be heard in the street. Whatever he does should be done quietly, kindly, deliberately, and lovingly."

Several years ago one of our young converts got into a little "squabble" with a brother-printer, in one of our local newspapers. The one who attacked him did not profess to be a Christian; perhaps he would openly declare he was not. May be he professes infidelity and skepticism—I do not know; but he seemed to have a very clear idea of what was Christianlike; for when his opponent twitted him of a bodily infirmity he turned upon him and showed remarkable clearness in pointing out the way in which one who professes to be a follower of Christ ought to behave himself, even when misused. The brother whose name is mentioned in the extract above is, I am informed, a man of unusual intelligence, and his sermons and lectures on temperance would indicate that he has a full share of love toward his fellow-men, and the grace which God bestows on all his followers. He has, perhaps, been carried away, like many others, by the excitement of the times; or, perhaps better, by the political excitement of the times. The boys, too, have got a little beside themselves under the influence of the pressure that has been upon most of us.

The town of Oberlin has for many years enjoyed a reputation, on account of the faithfulness with which the college faculty watch over the students, and keep them from excesses. Though we should hardly expect boys belonging to the college to deport themselves in this manner, yet perhaps if we examine into the matter we may find a reason for even this state of affairs. Many parents, to my personal knowledge, have sent their boys to Oberlin, just because of Oberlin's strong moral influences. No young man who is a member of the college is permitted to use tobacco in any form, and other rules and regulations are correspondingly strict. Knowing this, is it any wonder that many parents, finding their boys are beginning to learn bad habits, decide to send them to Oberlin? It is also well known that many a wild youth has, under the influence of such a band of Christians, come out and declared himself for the Master, when the probabilities are strong that he would never have done so elsewhere. Well, under these circumstances, and with the reputation this place of learning has, is it at all strange there should be found as many as 200 wild college boys out of the 2000 or somewhere about that number that congregate there? I know the faculty have had trouble with the boys since these exciting times, for their mild old president has given them some pretty severe talks of late—severe for him, I judge, for he has a remarkable portion of that grace embodied in our little text. His voice is never loud, and the quietness of his reproofs is one of the greatest elements of the power he holds there over the young people. I was once present at an afternoon prayer-meeting where he presided. An opportunity was given for questions. As a considerable number were present, of course but a limited time could be given to each subject; however, one brother whom I took to be a stranger, like myself, insisted on pressing some of his own ideas upon the meeting, and in a way that seemed very uncivil, at least to the chairman. Pretty soon it became apparent that this friend would have to be called to order, and I was greatly interested in seeing how this man of whom I had heard so much would manage it. The president, in a few brief words, gave him to understand that his remarks were not exactly proper for such a time and place, and that he was in the wrong; and the words that were spoken were very low and very kind, and few in number; but every one felt that they were sufficient, and the speaker went on as calm and unruffled as if nothing had been said in the least uncourteous. After I went home I fell to wondering whether it was a natural gift, or whether it came from years of trial. Probably education did much to bring it forward; but more likely it was that he had gone often in prayer to God.

I want to emphasize right here the value of a Christian education in this one respect, of making a man quiet and deliberate in all that he does. Well, these boys, it seems, in spite of the college faculty, and in spite of the warning words of the president, had started out to *celebrate*, as they perhaps termed it. I am told that the boys visited Mr. M.'s residence the night before, and annoyed him greatly; and he says, in defense, that they tore up his sidewalk. In any case, no doubt the boys should have been prosecuted before the law, if they would not listen to reason. One with the spirit of Christ in his heart would, however, have succeeded without even talking of doing this; for those who have had experience in similar matters know very well that many times the spirit of evil seems to be fostered and encouraged by the right kind of opposition. We see this illustrated in crimes narrated in our daily papers. Many of them come about from neighborhood quarrels. Perhaps a very trifling difference starts the trouble, but that, because the spirit of evil seems to be on both sides, it only ends in crimes and perhaps murder.

What shall we do with boys who rob our bee-hives? is a question that comes home to all of us. From the fact that the bees we have nowadays are oftentimes of far greater value than the honey the boys covet, the question comes home to us with unusual force. In our cooler, calmer moments, we decide at once that we want to take such a course as will stop thieving with the least expense and trouble; and where it is a Christian who owns the bees, he ought to show that by far the most important transaction in the whole thing is the saving of the boys. Boys are of more value than bees; yes, boys are of more value than politics; because if we hadn't any boys we shouldn't need any politics. We want boys to grow up to be men, and we want them to be men that shall not cry out, nor lift up, nor cause their voice to be heard in the street.

When the boys visited him the night before, he ordered them off the premises, and told them if they came again they came at their peril. This may be true; but I should expect such words to be the very ones that would be pretty sure to make the boys come again. Even when boys are wrong, they do not like to have shooting talked to them. It is a free country, and a Christian country, and almost instinctively the feeling rises up, "You'll shoot, will you? Well, you had better try it, if you think best." I have not consulted a lawyer; may be my notions of law are not just right, but I believe our laws are founded on the Bible, and I believe, as Brother Pond has expressed it somewhere, our laws are God-given. A man has a right to order us off his premises, if he chooses; and when he so orders us, we are bound to go; that is, he has a right to insist on our going. If we do not go, he can take us up for trespassing; but I do not think he has any right to shoot. I do not believe any law can be found granting such a right. If a man breaks into your house at night, whom you have reason to suspect came with burglarious intentions, you have a right to shoot, and reason and common sense tell why the law grants this right. He comes prepared to take life, if he is obliged to in order to get your money, and therefore if you shoot him you do so in self-defense. If he comes to get corn out of your crib, there is no law in the world that will justify you in shooting him, because he is endangering no one's life. He is simply endangering your corn, and human lives are worth more in God's sight than corn or sidewalks. What ought a Christian to do when somebody is stealing his corn? Well, I do not know what would be just the proper thing. May be the president of Oberlin college would do it about right. From what I know of him I should expect him to speak mildly to the intruders, and I guess his mildness would have more effect in every way than shotguns.

I know what it is, friends, to feel indignant and to feel outraged. I have had my property damaged by boys, and I have had feelings rise up within my heart that I dare not confess on paper. It took considerable grace to get them down. I did not want to resort to law; I wanted to adjust matters after a fashion that suited me in that present mood; but the feelings were very wrong and very bad; and if cherished or given way to, I fear to think where they might lead. A man whom I knew quite well, once discovered that somebody was stealing provisions almost every night from his store. He concealed himself behind the counter, with a loaded gun. A poor laboring-man came in; and while he was packing up food and things needed in the household, the owner of the store shot and killed him. The store-keeper had probably been long vexed by losing his goods. Very likely he had seen his profits dwindle down to nothing because of this thieving. He had perhaps lain awake nights over it, and finally declared that the offender should go no longer unpunished. He laid his plans, and succeeded to his heart's content. He found the thief, and shot him. Nevermore in this world would his hard-earned goods be taken without equivalent—at least, by that one thief. Did he succeed? Did he feel happy over it? Is there any one here among our readers who would for thousands of dollars stand in that man's place to-day? What shall it profit a man if he gain the whole world, and shoot his neighbor, even though that neighbor be a thief? Suppose when he found that man taking his things, he had talked to him quietly. The man would not have shot him—he had no such intention. He was only a poor mistaken foolish—*fellow-traveler*. May be he would not have shown much penitence; perhaps, after having got out of the scrape so easily, he would take it up somewhere else. But even if he did, would it not be far better—*far* better? I do not believe he would, however. I have known, in my short experience, quite a number who have taken to deliberate dishonesty, but who have been reclaimed and brought back by kind words, and the world never knew it.

I hope the friends will not think I am unpatriotic if I say a word in regard to the noisy demonstrations we have in our political campaigns. Of course, many who unite in these bands, and carry torches, and help form processions, are earnest Christians; but, do they always feel as if such work were just in keeping with the spirit of our text? A good many of these celebrations are carried on far into the night. In getting close to those who wear the uniforms, and in looking under the fancy-colored caps, I often see the faces of quite young boys. Sometimes these boys, along with the older ones, have cigars in their mouths. At one celebration I attended, the saloons did a terrible business, and many of these boyish faces marched into the saloons with the older ones. It is right to rejoice; but, dear friends, is it not possible that we may, even in our rejoicing, do harm? What is exactly the right thing for a Christian to do? I presume, of course, the money expended in this campaign work is supposed to be well expended; for by means of these things we get up an enthusiasm, and awaken people from that sleepy state that is one of the greatest obstacles in the way of bringing about needed reforms in our country. But, do we really accomplish the end we seek? The parties that make the greatest parade are not always the victorious ones. The spirit of our text, of course, never intended that we should sit down with folded hands and let things take their own course; and it is a sad fact, that many good men and many earnest Christians are guilty of the great sin of omission in absenting themselves from preliminary meetings and caucuses, where a word spoken in time might be the means of checking or blocking great evils. Let us be full of energy and zeal, wide awake and enthusiastic; but let us, at the same time, neither cry nor lift up, nor cause our voices to be heard in the street.

The papers, of course, are making quite a point of that little abbreviation, "Rev." "It was the *Rev.* Mr. M. who shot at the boys." Every boy no the streets recognizes the inconsistency here. Either the man who did the shooting had no right to the prefix of "Rev.," or he had most sadly wandered away from his post. It is a solemn and sacred thing to be known as a follower of Christ, and it has seemed to me, dear friends of the clergy, it is still more solemn and sacred to be known and recognized as one of God's ministering servants—one who professes to teach mankind godliness, and God's ways of dealing with humanity and with sin. Perhaps I am treading on delicate ground here: if so, I hope to be excused and forgiven. I only wish to suggest, in a neighborly and friendly manner, that this prefix of "Rev." should be handled by all parties who handle it, with reverence and care. It seems to me we are approaching very near to God. If I am correct, custom authorizes its use only toward one who has been properly ordained as a minister of the gospel. Of course, it is very wrong and wicked to use it in sport or in jest, and it is seldom that even the most hardened do use it in this way, I believe. It has just been suggested that there are denominations that never use it at all, because they consider it too sacred. One thing is certain, we sometimes see it before a man's name where it ought not to be. Who is guilty in such cases? Do ministers usually attach it to their signatures? I have not looked the matter up very much, but I know some good friends among the clergy who do not. I have just looked up a postal card from my dear pastor, who first taught me God's ways, and I found his signature is simply A. T. R., with nothing before it. His friends, in speaking of him, or the papers in mentioning his name, of course use the prefix, which, it seems to me, right and proper to do. They feel that it belongs to him, and accord it as a right, and a well-earned one. In our business matters, very frequently a friend, in asking for a little time on part of his purchases, mentions that he is presiding as a minister of the gospel over such a parish; and sometimes adds, that if the fact will be worth any thing in the way of a recommend, I can take it so. With our thousands of customers, I believe I am right in saying that no minister of the gospel has ever so far dishonored his calling as to refuse to pay his just debts. In the above case it may be that it is the newspapers or the friends who placed the title of "Rev.," as we have it in the papers. But I have been told that it does not properly belong there.

Now, friends, a word in closing, in regard to the bright side of a Christian character. How much is it worth to go through life holding such faithful rein and rule over our spirits that we may be likened to the one described in our text? Suppose you have a fearful temper, and get so full you can not contain yourself; that is, it seems as if you could not. I hardly need say you know you can. I have sometimes thought that the greatest rewards come to those who had the hardest battles to fight. When they have, by God's grace, become masters of themselves to such an extent that they are known among men as those who never cry nor lift up, nor cause their voices to be heard in the street, then they are worth something—not only to their fellow-men, but to God; for then, and not until then, can God use them.

In our last issue I told you something of Mrs. Jennie Culp's husband, Henry Culp, of Hilliards, Ohio. Although a minister of the gospel, he was one of those like many of us who had his ups and downs, and sometimes his "downs" were grievous to bear. I shall relate a little incident, told by his wife. A picnic excursion was under way for the children, and his own children were to furnish horses, while those of a neighbor furnished a vehicle. They were going all together. It happened that the children of said neighbor hadn't just the reputation in all things they ought to have had. Perhaps the contrast between them and the minister's family was a little apparent, and our good friend Mr. Culp, when the matter was mentioned to him, objected, on the ground that they were not proper company for his family, or something to that effect. His wife pleasantly asked him if he didn't lack charity just a little. Now, the sermon the next Sunday was to be on charity, and this gave the rebuke a double force; in fact, it so upset him that he couldn't get on with his sermon; and when in dismay he tried to find another text, he could not get on with any other one, and so he went moping about in one of his melancholy moods all the week. When his wife tried to rally him he told her that she had spoiled his sermon by what she said about charity. How could one preach charity to the world, when he had none himself? In vain he prayed God that the tempter might be made to get behind. Satan followed him, and pestered him (some of us know how it is, or I am mistaken), and hung on to him, even to the very church-door. He had no text and no sermon. In agony he prayed to God to deliver him, and, unlike Jonah of old, promised to do God's bidding, if it were only made plain. He walked up the aisle to the pulpit. No doubt his good wife prayed too. What do you think? No such sermon was ever heard from Brother Culp, or any other brother, from that pulpit; and as they rode home his wife pleasantly accused him of deceiving her when he had such a grand sermon prepared. His reply was something like this: "My dear wife, I did not deceive you. I had no sermon prepared at all. Satan clung to me until I had actually put my foot on the pulpit-steps. Then God heard my cry, and answered. He took the tempter away, and for one whole hour God ruled, and Satan was gone. If I can, before I die, have the consciousness that Satan has been banished for ever, as he was for that one brief hour, and that he shall trouble me no more, it will be the culminating joy of my life."

The above are probably not the words used, but the substance. His prayer was answered; and before the poor tired weary soul took its flight, weary in fighting against sin, the reward came. I will close, with an extract from his obituary, as furnished by his wife:

> As the friends gathered about his dying bed, he requested to be propped up, and said, "If the Lord will give me strength, I want to glorify him once more before I go." He talked with unaccustomed strength. He ascribed all that he was to the fact that the Methodist Church had taken him, when a poor orphan boy, had cared for and been a mother to him. "Now," said he, "I am about to exchange a cottage for a kingdom. I have prayed that the veil might be lifted before I crossed over, and it is. My spiritual sky is as clear as the noonday sun. I see the open gates of the New Jerusalem, the river and trees of life, and I am going to live with my Heavenly Father eternally." For an hour he seemed to see and describe the beauty and glory of the Heavenly City. He then said: "I have tried to preach Christ in life, and now I can say, Behold; behold the Lamb!" We never heard a more vivid description of heaven than came from his lips. The Lord Jesus made his dying bed more soft than downy pillows are; no thorns in it. It was all radiant with the glory of the upper world.

Don't you remember ,friends, the promise?

> Eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that love him.—I. Cor. 2:9.

REPORTS ENCOURAGING.

FROM 73 TO 136 AND 10,000 LBS. OF HONEY.

WE have not had a very good honey season this year, being wet and rainy till the first of July. I commenced with 73 good stands this spring; increased to 136, and about 90 of them double stories. I have taken since the 15th of July, ending on the 12th of October, 8000 lbs. extracted, and 2000 lbs. nice No. 1 comb honey. Having to hire nearly all my work done, I think this is doing pretty well. Some day, not very far distant, I will tell you how I came to be a bee-keeper. SAMUEL D. BATES.

New Madrid, Mo.

I have sold my honey well, I think—18c for white-clover honey, and 17 for dark honey in 1-lb. sections, delivered at Columbus, O., crates to be returned. Extracted honey sold at home for 10 cents. J. A. BUCKLEW.

Clarks, Coshocton Co., O., Oct. 11, 1884.

A FISH-GLOBE FILLED WITH HONEY.

Since I started in the business, and exhibited honey, both extracted and in boxes, there has been quite a demand for bees, honey, etc. I inverted a fish-globe over a hive for the bees to build in, which was done nicely. I have it on exhibition on my counter. It has created quite a sensation. It seems that every one wants to invest, and look to me for information. A. LOWER.

Griffin, Ga., Oct. 31, 1884.

5000 LBS. OF CLOVER HONEY.

I had 5000 lbs. of clover honey of my own raising, but am nearly sold out. Basswood was a failure here this year. C. OLIVER.

Springboro, Pa., Oct. 13, 1884.

Friend O., you do not tell us how many you started with, nor how many you closed up with, so we can not tell whether you belong in "R. E." or not; but as you generally do, I think we shall put you there now.

FROM 11 TO 25, AND 2500 LBS. OF HONEY.

May 1, 1884, I commenced with 11 full stocks and 5 weak ones. I have at this date 25 stocks, all in good condition, and 2500 lbs. honey. One old stand gave me 350 lbs. alone. The frost killed all early bloom. We had no basswood and very little white clover. I got about 400 lbs. red-clover honey; but when buckwheat opened, then business commenced with a vim. I am getting 25 cts. for section, and 10 cts. for clover extracted, and 15 cts. for buckwheat extracted. I shall get rid of the whole of it at the above prices, right out of the store, by Jan. 1.

Brodhead, N. Y., Oct. 15, 1884. H. SHAW.

FROM 31 TO 55, AND 5800 LBS. OF HONEY.

Since I have my bees doubled up for winter, and my honey nearly all sold, perhaps my report for the year will now be in order. Put 41 colonies in winter quarters last fall. The first of May found 31 alive, 6 of which were queenless, and 25 mostly in poor condition. By equalizing, feeding, and spreading brood-nest, I had most of them working in second stories by the middle of June. Now for results: Extracted 5800 lbs. of honey, and took off 200 lbs. in ¾-lb. sections: increased to 55; bought 38 colonies Sept. 15. Total, 93. G. D. BLACK.

Brandon, Iowa, Oct. 27, 1884.

FROM 9 TO 18, AND 406 LBS. OF HONEY.

I will send you my report for 1884. I began the season with 9 swarms — 6 strong and 3 weak; had one old box hive. Increased by natural swarming to 18, and one absconded. Took 363 filled 1-lb. sections and 43 lbs. of partly filled ones. The old box hive gave me 30 lbs., but no swarm; one new swarm in chaff hive gave 56 lbs.; it is all white-clover; basswood was a failure here, as this is a poor season, and this my first attempt at keeping bees in movable frames, and as I gave them not to exceed two weeks' attention in all, I feel well paid and well satisfied. J. S. LEONARD.

Cattaraugus, N. Y., Oct. 22, 1884.

3000 LBS. OF HONEY FROM 40 HIVES OF BEES.

Not much of a honey year in this section. I made 3000 lbs. comb honey from 40 hives, and about a fifth of it candied in hives. I have read so much about California sage honey, and Florida orange-blossom honey, I should like to get a sample of both. Could you tell me where I could get them?

Rapidan, Va., Oct. 19, 1884. R. R. CUYLER.

You do not tell us how much your increase was, friend C. I have never had more than a single bottle full of orange-blossom honey, and this came from Joppa, in Palestine, on the east coast of the Mediterranean. The honey was beautiful, as I have told you, but there is not enough to furnish samples. We usually keep the white-sage honey in stock, but have not a sample of any thing now that is nice.

FROM 44 TO 61, AND 1200 LBS. OF HONEY.

As small reports are the style now, and as bee-keeping is only a kind of side issue with me, I will, by your leave, hand in mine. I commenced in the spring of 1884 with the same number I had last fall (44), not having lost any in wintering or springing since 1881. They increased by natural swarming to 61, besides 4 swarms that I sold, or gave away, rather, in comparison to the way you and some others sell bees. We can sell once in a while a swarm of bees that will weigh from 5 to 9 lbs. for the precious sum of $2.00, Italians at that. We can't sell swarms of black bees for more than one dollar, and you can buy cartloads of them here at that price.

Well, now, I have obtained from all those little busy bodies 1200 lbs. of honey — 1000 lbs. comb, and 200 lbs. extracted, all dark, and some darker, though it is all pretty good honey, and very thick. I got not a drop of fall honey; in fact, the honey the bees have to winter on was gathered in June, July, and the first of August, and I should have extracted that from them, but I waited till the honey-flow entirely ceased, and then I saw that it would not do, so now they have plenty of honey; but the bees have been thinned out about a half by a cider-mill close by, and I'm afraid. JACOB COPELAND.

Allendale, Ills., Nov. 6, 1884.

2000 LBS. OF HONEY FROM 85 COLONIES.

My report for this year is 2000 lbs. from 85 colonies of bees, mostly comb honey, and I am safe in saying that is more than was obtained from all others in the county; yet in 1882 I obtained 4000 lbs. from 32 colonies—about double the amount from two-thirds less bees. If I had a full crop in 1882, this year's would be about a sixth of a good crop. My bees were strong all summer—just honey enough for brood-rearing, after the first flush of white clover; linn and fall flowers yielded no surplus, but my bees are in their winter quarters with plenty of well-ripened and sealed honey, with oceans of pollen, and I expect them to come out in the spring as fat as pigs. Give me lots of pollen, if well covered with ripe, well-sealed honey, and I will winter every one every time. I winter on summer stands, and that is on the ground with a brick under the back part of the hive. My hives are ventilated by boring a ⅜-in. hole at the front, just under the portico, perhaps one inch below the top of the brood-frames; thus they get plenty of pure fresh air at all times, without regard to the lower part or bottom of the hive, with half a bushel of chaff, or, better still, as many dry leaves from the woods in the top story, and over the bees. I have never lost a stand of bees thus ventilated, with diarrhœa or any other cause; not even a nucleus of bees can bring air in as they need it in this manner of ventilation, without a current through the cluster. Tell James that he can never get there by the pollen route. Somebody has said we are about to fathom our winter troubles. Yes, I suppose there is a little hole in the bottom of the sea, so in the bottom of the sea there is a little hole. JOHN A. WILLIAMSON.

Lodge Prairie, Ill.

FROM 25 TO 121, AND 7500 LBS. OF HONEY, AND "MORE TOO."

Apiary of C. M. Drake, Ventura Co., Cal. Started in 1884 with 5 very weak colonies in boxes—no supers. Bought 10 more colonies; transferred the 15 to ¾ Langstroth hives; and when season was half done, purchased 15 more colonies in poor condition, and transferred them; increased partly by division to 121. Bees were in the midst of blue-gums about 100 feet high, and no limbs half way up; and as I taught school half a mile away I probably lost many swarms. I know I lost 6. I took out 3½ tons of honey with extractor. Sold 200 lbs. in comb, and have all my hives full, top and bottom. About 100 have supers on, holding 35 to 40 lbs. each, that I do not take out because honey is so very low. Honey sold for 5, 4, and 3½ cts. net per lb. The 5-cent was as nice as I ever saw.

FROM 19 TO 72, AND 5000 LBS. OF HONEY, AND "MORE TOO."

Apiary of J. Stewart, Las Posas, Ventura Co. Started with 19 colonies; increased to 72. Took out about 2½ tons of extracted honey; hives all full, and could take out 1½ tons more, if honey were higher, as bees are getting a living, and will do so until next spring, in all probability. Bees received almost no care.

Other apiaries reported large yields, reaching up to 100 tons in one apiary. One reports 500 lbs. to the spring count, but I doubt the correctness of the report. Many run over 200 and 300 lbs., however.

Santa Paula, Cal. C. M. DRAKE.

Well, friend D., it does indeed look as if California had been having a boom. We congratulate you. I wanted to purchase some of the nice honey at 5 cts. per lb., but the lots were all so large that I feared I shouldn't be able to handle them; so I'll have to grow somewhat, or else somebody will have to come down to a ton or half-ton before we can get some of that nice honey away out here at a moderate price.

GLEANINGS IN BEE CULTURE,

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, NOV. 15, 1884.

Not by might nor by power, but by my Spirit, saith the Lord of hosts.—Z. CH. 4. 6.

OUR bees are all ready for winter (a little over 200); how are yours?

BUSINESS AT THIS DATE.

As we could easily manage a good deal more business just now than we are having, we will allow the same discount mentioned in our last issue until Dec. 1.

FROSTY WEATHER.

AN excellent physician once said that cold weather should have the effect of a tonic on a healthy system; and I believe it is true, that those who live temperately generally feel stirred up to more good works as the days shorten, and the air becomes keener. If your work is outdoors, you have fewer hours to labor, therefore these brief hours should be made to count. If you are working for somebody else, let him see you recognize the circumstances, and give him a good full day's work, in the amount accomplished, if not in hours.

PRESENTS FOR SUBSCRIBING EARLY.

IT is a pretty hard matter, dear friends, to give very much money in premiums, when GLEANINGS is sent twice a month, as it is nowadays; but for all that, in order to wake the clerks up a little at this dull season of the year, we will give the new seed microscope (or any *other* article from the 10-cent counter) to every subscriber who renews for 1885, before Dec. 1. The new subscriptions will count the same, and the rest of this year will be included also. The condition under which we give this premium is, that you tell what article you want, and send the proper amount of postage, as per our price list. Here is a chance for the children. If you want articles from the other counters, you can send the balance in cash, or get more names.

A SEED-MICROSCOPE FOR ONLY 10 CENTS.

SEVERAL of the friends have had pretty hot discussions about small seed in alsike clover, and a great many times we have had to explain that the seed of the alsike clover is not all of a size nor of a color, and that what many call sorrel is only quite small dark grains of alsike. To see it with your own eyes, you need a microscope or glass of low magnifying power. While you are about it, it is a good plan to look and see if there are any seeds of weeds among *any* seed you are going to sow; and while a microscope is not always necessary, you might look over all the seeds you expect to sow, including wheat, and see what you find in it. It is true, there ought to be no small seeds in the wheat, but sometimes you want to compare it with different samples. Well, a seed-microscope is worth a dollar or more, any way; but here we are with quite a pretty one, with a sample of seeds of different kinds for you to test it by, and the whole is only 10 cts. If wanted by mail, 6 cts. more for packing and postage.

BE SURE TO TELL WHAT YOU WANT, AND HOW MUCH OF IT.

I PRESUME few of the friends realize how much trouble it is for us to find out, oftentimes, just what our friends want. As an illustration, a customer away off in New Zealand ordered a number of articles, and then closed by saying, "Send the balance in tinned wire for brood-frames." Some of the articles cost more than he expected. There was not any balance, so the clerks sent off the goods without any tinned wire. Weeks and months had to pass, and then he complained that we did not send any tinned wire, and he wanted that most of all; in fact, that was the principal thing that induced him to make the order. Now, this friend's credit is perfectly good: we should have been glad to send him half a ton of tinned wire, if we had known that was what he wanted. While his letter of complaint is before us, another shipment is going to a neighbor of his. How much tinned wire shall we send him? The clerks can not decide, neither can I. May be he had in mind a pound, or it might be a hundred pounds; don't you see? Now, then, always tell what you want, and how much; then if we can not fill the bill, we will do the best we can.

KEEPING A RECORD OF THE CONDITION OF HIVES IN THE APIARY.

A GOOD many of the friends, especially those just commencing, have their hives numbered, either by numbers painted on the hives, or by a movable number on a piece of metal, and a book is kept with a page for each number. Now, doubtless a good many will prefer this way; but after having used it for several years, we have discarded it as expensive and complicated machinery. A sharp bee-keeper, even though he have a hundred hives or more, will usually keep in mind the condition and qualities of each separate colony, to a great extent. When more than this is needed, a slate, it seems to me, is very much more direct, and simpler than any record in the book. If you are doing it for the fun of the thing, and have leisure time on your hands, it does not matter so much; but if your time is valuable, I do not believe you can afford to fuss with a book with numbers in it. If you hire help, and a new hand should take hold of things occasionally, the record on the slate is self-evident without any explanation. If you wish the marking on the slate to be permanent, wet the slate, then write with a red lead-pencil. Such a record as this will not be affected by rain, snow, nor frost. If I am not mistaken, not a few have found that the gross receipts in cash from the bees will not pay for any work that may be readily dispensed with.

SENDING AN INVOICE WHEN YOU SHIP GOODS.

WHEN you sell goods, make an invoice. Almost daily our book-keepers have trouble because they do not know what to credit somebody. One friend sent us a lot of strawberry-plants. He filled the order, it is true, but he wrote never a word in regard to how many plants he sent, nor what they were worth. Perhaps he thinks we know what we ordered, and what the price was. Very true, I did see the price in some advertisement; but the advertisement is now lost, and our gardener could not tell whether the order was filled correctly or not, for no invoice came; therefore before we can credit our friend we have got to go out into the field and count the plants, tell the names of each kind, then go back to old files of agricultural papers, and hunt the price, before we can credit him on the ledger. I do not know how it is with you, my friends, but I feel like saying I would pay more money to somebody who has "get-up" enough to say on a postal card, "I have mailed you two dozen strawberry-plants, at 60 cts. a dozen—$1.20." It is always a relief to me to see the amount I am to pay, or the credit to be given, carried out in plain figures, with the dollar-sign mark by the figures, so the clerks can not make any mistake. Some raspberry-plants from friend Martin, who advertises in this number, are in the same predicament. They came, and were handed right over to the gardener, to plant them out quickly; but we have waited and waited for a postal card, and now the book-keepers are pestering me to know how much they shall credit Mr. Martin for his raspberry-plants, that they saw me have. I do not even know how many there were. If I did, I do not know what they are worth, without hunting it up. Do your business in a businesslike way, and wind it up by telling how much money you want, sharp and clear.

ANOTHER VALUABLE NEW BOOK.

I AM always glad to see any of the children at our home show a special liking or talent in any given direction. I am glad to see them take up some subject for a hobby; and if I do not find them developing ability and taste for some branch, I feel worried about it. You know how I have been watching Blue Eyes all these years. She does not like bees, and sometimes I feared she did not like *any thing* that requires very much work. Now she begins to show where her forte lies. What do you suppose it is? Why, it is teaching school. Whenever she has a holiday her first work is to gather up a class of pupils. It does not matter where she gets them; she just gathers them up wherever they can be found handiest. It does not matter very much whether they can read or not, she soon drills them so that they will go through the motions very creditably. The pleasant part of it is, that it is not only herself that enjoys the work, but the children always seem to be glad to play school. Well, you know this is pretty near time to be thinking about Christmas presents; and so yesterday, when a book was laid on my table, entitled "Teaching and Teachers," I thought of her straightway; and imagine the surprise and pleasure I felt when I discovered the book was by our old friend H. Clay Trumbull, editor of the *Sunday-School Times*. The book is so interesting, that, no matter where you open it, you find it hard work to lay it down. It is full of sketches and stories, all of them in that bright, vivid fashion that only Dr. Trumbull knows how to employ. The price of the book is $1.50; but any of you who want it for a Christmas present, or any other purpose, may have it for $1.25. It is a book of 377 pages, with marginal notes. Perhaps you would like to know how it it is that I have put it into print here about Blue Eyes' Christmas present. To tell the truth, she never reads GLEANINGS, and so rarely the JUVENILE that I have no idea she will see it at all. If she does, I will tell you what she says to it, and give her the book before Christmas.

OUR NEW CARP-POND.

WE are just now enjoying ourselves, quite a number of us, making a carp-pond, on the latest and most approved principles. It is about 50 by 100 feet, and a man who makes carp-raising and pond-building his business, is here superintending it. I asked him so many questions about carp last evening, that he was clear tired out and had to go to bed, and I do not believe it was 9 o'clock either. Do you want to know about carp? Well, they are a new kind of fish that come from Germany. They won't live in lakes and rivers, because they are so quiet and inoffensive (and so good to eat) that the other fish won't let them grow. Well, in a little private pond by themselves they lay their eggs in May; and if it is a warm sunny place, about October the little fishes will be from four to six inches long. During the winter they lie pretty much dormant, and next spring they commence to grow again, and the second season they will weigh from one pound to a pound and a half. They are then fit for food. The third year they will perhaps double in weight, and so on for many years. A good female can lay from a quarter to half a million eggs in a season, when every thing works right, you can raise carp as fast as bees, or faster. At present, these little one-year-old chaps are worth about 8 to 10 dollars a hundred; two-year-old ones are scarce at from 8 to 10 dollars per *dozen*. So you see carp-raising pays at present prices. They can be easily shipped by express in iron-jacket cans, properly ventilated—that is, the little fellows can; but those two years old are somewhat risky. Just think of it! You pay $8.00 for a hundred fish, keep them a year, and they are worth $80.00 a hundred, or more. A pond 50 by 100 feet in size will pasture from 200 to 300 fish. When they get old enough to weigh a pound apiece, you must take up some and sell them, or have them for breakfast. Although thousands of ponds are scattered all over the United States, no carp has ever yet been thrown on the market for food, that I know of. The reason is, there are so many inquisitive Yankees that the fish are bought up to stock new ponds with, as fast as they grow.

There, now, little friends, if I haven't told the truth about carp, you write and tell me what you know about it. If you give me some valuable facts in regard to the new industry, I will pay you for your letters.

THE WORLD'S EXPOSITION AT NEW ORLEANS.

PREMIUM LIST ON APIARIAN SUPPLIES, ETC.

INCLOSED please find a letter which explains itself. Will you please insert it in the next issue of GLEANINGS, and state that I will mail a premium list to all those who write to me for it?

P. L. VIALLON.

Bayou Goula, La., Nov. 8, 1884.

P. L. Viallon:—Yours of 28th ult., via New Orleans, just received. Replying, I have caused to be sent you 200 copies Prem. List of this division for circulation among the class interested in apiary, and $2.00 to cover postage. You can say that ample provisions will be made for all apiarian exhibits; that a proper locality will be selected to permit proper exercise for bees, and a suitable person appointed to take charge. All needed information as to character of exhibits and display of implements can be found on p. 62 and 63 of Prem. List. G. C. BRACKETT, Supt.

RELIABLE SEEDS
AT·HONEST·PRICES.
·TRADE MARK·
P.S.

THE BEST CABBAGE SEEDS

in the world may hereafter be procured under the above Trade Mark, and we want every Cabbage Grower in the Union to test them this season so he will know what to use in future. They are called

TILLINGHAST'S PUGET SOUND BRAND.

WHY ARE THEY THE BEST IN THE WORLD?

1st. Because we have for years been perfecting the best strains, and seeding from **perfect heads.**

2d. Because they are grown in the extreme northern part of the Union, on Puget Sound, Washington Territory, where the **soil** and **climate** are more perfectly adapted to the complete development of the Cabbage than any other section of the Union. Not only do **Northern Grown** Cabbage Seeds do better naturally than those grown farther South, but the more **perfect development** of the **heads** there from which the seeds are grown enables us to more critically select the **true types** which may thus be reproduced. **The seeds** also are **much larger and more perfectly developed** and produce **larger and thriftier plants** which better withstand insect ravages than any other seeds in existence.

3d. Because they are grown directly under the careful and *personal supervision* of a brother of the advertiser, who has our reputation at stake, and will see that they are kept **the best in the world.**

PRICES, &c. We now supply *Early Jersey Wakefield, Early Bleichfield, Berkshire Beauty, Henderson's Early Summer, Fottler's Improved Brunswick, Premium Flat Dutch, Excelsior Flat Dutch, Late American Drumhead, Marblehead Mammoth* and *Red Dutch*, all of this justly famous **P. S. brand,** at **5 cts per pkt., 25 cts per oz., $4.00 per lb., by mail postpaid.** (Eastern stock much lower.)

AN AGENT WANTED. We want **one good reliable agent** (only) in every town where we have none, (over 500 already established,) to sell our superior seeds, and plants grown from them, to his neighbors. **Full instructions** for *successfully* growing and selling plants will be furnished with such favorable rates on seeds that you can **make money rapidly.** If rightly situated to act apply at once for full particulars. Depend upon it, *this is a rare chance to establish yourself in a remunerative business at your own home.* For reference send for list of agents. Some sold 500 000 plants.

CAUTION! The great popularity already attained by **"Tillinghast's Puget Sound Seeds,"** has induced some dealers to offer inferior seeds as nearly under our name as they dare to. Some of these we know have been grown on Puget Sound, but from common mixed stocks by very careless and irresponsible parties, who expect to sell on the strength of the justly earned reputation of our famous brand. **To avoid** all such *see that they are sold under our Registered Trade Mark, or send directly to us for them.*

Address, - **ISAAC F. TILLINGHAST, LA PLUME, Lack'a Co., Pa.**

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. SEE ADVERTISEMENT IN ANOTHER COLUMN.

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JOB LOT OF WIRE CLOTH

AT GREATLY REDUCED PRICES.

Such a brisk demand has sprung up for this, and our customers seem to be so much pleased with the goods, we have succeeded in getting another still larger lot, of one of the largest manufacturers of wire cloth in the world. Please bear in mind that the only way in which we can afford to sell it at the very low price of 1½ cts. per sq. ft. is by selling the entire remnant just as it is put up. We have now in stock the following pieces. As fast as it is sold, each piece is crossed out, and the next issue will show what remains.

Width, 8 inches.—3 rolls containing respectively 50, 50, and 60 square feet.

Width, 9 inches.—One roll, containing 60 square feet.

Width 10 inches.—7 rolls, containing respectively, 60, 72, 75, 70,50, 65, and 75 square feet.

Width, 11 inches.—One roll, containing 80 square feet.

Width 12 inches.—5 rolls, containing respectively, 80, 100, 90, 90, and 100 square feet.

Width, 14 inches.—3 rolls, containing 116 square feet each.

Width, 16 inches.—4 rolls, containing respectively, 60, 130, 130, and 118 square feet.

Width, 17 inches.—One roll, containing 50 square feet.

Width, 20 inches.—2 rolls, containing respectively, 50, and 150 square feet.

Width, 22 inches.—2 rolls, containing respectively, 250, and 180 square feet.

Width, 24 inches.—11 rolls, containing respectively, 50, 55, 72, 20, 20, 30, 80, 110, 60, 110, and 200 square feet.

Width, 25 inches.—5 rolls, containing respectively, 53, 97, 100, 143, and 250 square feet.

Width, 26 inches.—14 rolls, containing respectively, 65, 69, 215, 40, 40, 200, 210, 216, 200, 215, 216, 65, 200, and 200 square feet.

Width, 27 inches.—One roll, containing 23 square feet.

Width, 28 inches.—12 rolls, containing respectively, 58, 93, 150, 150, 116, 200, 115, 40, 230, 250, 190, and 264 square feet.

Width, 30 inches.—11 rolls, containing respectively, 110, 210, 25, 72, 90, 190, 62, 270, 115, 140, and 50 square feet.

Width, 32 inches.—6 rolls, containing respectively, 150, 142, 125, 41, 130, and 133 square feet.

Width, 34 inches.—5 rolls, containing respectively, 200, 265, 85, 270, and 120 square feet.

Width, 36 inches.—9 rolls, containing respectively, 80, 270, 200, 60, 150, 130, 120, 175, and 300 square feet.

Width, 38 inches.—5 rolls, containing respectively, 75, 316, 300, 290, and 316 square feet.

Width, 40 inches.—5 rolls, containing respectively, 300, 275, 320, 166, and 125 square feet.

Width, 42 inches.—One roll, containing 245 square feet.

Width, 48 inches.—One roll, containing 140 square feet.

A. I. ROOT, Medina, Ohio.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL.
See advertisement in another column. 3btfd

PLYMOUTH ROCKS.

A few choice trios at $5.00, also a lot of fine young cockerels, *choice* birds, at $2.50 each. Brown Leghorns, S. C., at $5.00 per trio. Eggs in season.

Address T. GRAHAM ASHMEAD,
22-23 Williamson, Wayne Co., N. Y.

QUEENS BY RETURN MAIL. I am now up with my orders, and can send by return mail. Send me your orders, and help me out of the fire.
J. T. WILSON,
17tfd Nicholasville, Jessamine Co., Ky.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or $2.00 per year.

Those whose names appear below agree to furnish Italian queens for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for $1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A.I. Root, Medina, Ohio.
*H. H. Brown, Light Street, Columbia Co., Pa. 19tf
*Paul L. Viallon, Bayou Goula, La. 19tfd
*S. F. Newman, Norwalk, Huron Co., O. 19tfd
*Wm. Ballantine, Sago, Musk. Co., O. 19tfd
*D. G. Edmiston, Adrian, Len. Co., Mich. 21tfd
*Dr. John M. Price, Tampa, Hillsboro Co., Fla. 5-3
*S. G. Wood, Birmingham, Jeff. Co., Ala. 19tfd
*Jos. Byrne, Baton Rouge, E. Baton R. Co., La. 7-5
*W. W. Turner, Oak Hill, Greene Co., N. Y. 7-5
*S. C. Perry, Portland, Ionia Co., Mich. 21tfd
Will True, Chadwell, Clatsop Co., Oregon. 9-7
*B. W. Harrington, St. Catherines, Ont., Can. 13-23.
Jas. O. Tracey, New Hamburg, Ont., Can. 19tfd.

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.
P. L. Viallon, Bayou Goula, Iberville Par., La. 19tfd
M. S. West, Flint, Genesee Co., Mich. 1-24
Apiarian Supply Co., Wilton Junction, Mus. Co., Ia. 3-1
C. P. Bish, Petrolia, Butler Co., Pa. 9-23
C. W. Costellow, Waterboro, York Co., Me. 21-19
Kennedy & Leahy, Higginsville, Lafayette Co., Mo. 21tfd

BEE-HIVES
AND
APIARIAN SUPPLIES.

We expect to have our new shop equipped and in running order by the middle of December. Then we will claim the best facilities for furnishing supplies in the South-East, and will furnish all kinds at very reasonable prices. Parties needing supplies would do well to see our prices before buying. For list, address **S. VALENTINE & SON,**
23-24d **Hagerstown, Washington Co., Md.**

LOOK HERE, AND READ.

120 COLONIES OF BEES CHEAP.

For particulars, address
23d THOS. YOUNG & SON, Spring Grove, Union Co., Ky.

IMPROVED SMOKERS, With Handle, $1.
J. L. HYDE, Pomfret Landing, Windham Co., Ct.
15-17-19-21-23d

300 Colonies of Bees For Sale,

Also 40 acres of land adjoining the city; good house, and plenty of good water. ANTHONY OPP,
21tfdb Helena, Phillips Co., Ark.

HONEY COLUMN.

CITY MARKETS.

ST. LOUIS.—*Honey.*—Our honey market is quiet, and there is only a small retail demand. Southern extracted honey in barrels, worth 5½ @ 6, half-barrels, 6 @ 6¼. Northern, in kegs, 7 @ 8 c. for extra to choice. Dark not wanted. Retail demand small for comb honey. Dark not wanted. White clover in best demand. Quote white clover 17 @ 20 c. retail. Spanish needle, 16 @ 17 c. in one-pound sections. Dark honey nominal, say 10 @ 12 c.

Beeswax.—Receipts small and demand light; 28 @ 30 c. for yellow choice. Dark nominal, 22 @ 24. We look for lower prices. W. T. ANDERSON & Co.

Nov. 25, 1884. No. 104 N. Third St., St. Louis, Mo.

NEW YORK.—*Honey.*—Of late our market has become well stocked with honey, and same is in good demand at the following prices: Fancy white comb, in 1-lb. sections, 18@20; fancy white comb, in 2-lb. sections, 16@18; fair to good, in 1 and 2 lb. sections, 14@16; fancy buckwheat in 1-lb. sections, 12@13; fancy buckwheat in 2-lb. sections, 11@11½; ordinary, in 2-lb. sections, 9@10; extracted white-clover, in kegs or small bbls., 7½@8; extracted buckwheat, in kegs or small bbls. 6½@8. *Beeswax,*—Prime yellow, 30@31.

Nov. 17, 1884. MCCAUL & HILDRETH.
34 Hudson St., cor. Duane St., N. Y.

CLEVELAND.—*Honey.*—Honey is in good supply, but not very much demand; there is no change in price since our last report, 15@16c being the best prices to be obtained for strictly white in 1-lb. sections; 2-lbs., 14@15c. Dark honey hardly salable at 10@12c. Extracted not wanted at any price.

Beeswax, 28c. A. C. KENDEL,
Nov. 25, 1884. 115 Ontario St., Cleveland, O.

CHICAGO.—*Honey.*—Choice comb honey sells very well at present, and brings 16c. One very nice lot of white, well-filled frames brought 17c (shipped by W. Z. Hutchinson, of Rogersville, Mich.). The stock on hand is not large. Some shipments come in mixed with dark combs through the case. This hurts the sale very much. Extracted honey is in very light demand; prices unchanged, 6@8c. *Beeswax*, 30c for prime. Comb honey should be forwarded before cold weather, as the wax loses its elasticity when cold. R. A. BURNETT,
Nov. 25, 1884. 161 South Water St., Chicago, Ill.

MILWAUKEE.—*Honey.*—This market is fairly supplied with honey, and trade is slow, and prices may be quoted as follows: Choice white comb, in 1-lb. sections, 14c; choice white in large sections of 2 and 2½ lbs., 10@12½c; dark and colored, 8@10c. Extracted, in kegs, 7½@8c; same in tin, 8c. *Beeswax*, choice, 28@30c. A. V. BISHOP,
142 West Water St., Milwaukee, Wisconsin.
Nov. 12, 1884.

BOSTON.—*Honey.*—We quote 1-lb. sections at 18@20c; 2 lbs., 16@18c; extracted, 8@10c. Extracted honey for bee feed at 6c per lb.
BLAKE & RIPLEY,
Nov. 12, 1884. 57 Chatham St., Boston, Mass.

FOR SALE.—I have 5 kegs holding 110 lbs. each, of dark honey, it being ¼ honey-dew and ¾ clover and heart's-ease. It is thick and well ripened, and is suitable for manufacturing purposes, or spring feeding. I will take 5c per lb., kegs thrown in.
R. I. BARBER, Bloomington, Ill.

FOR SALE.—I have on hand about 1500 lbs. of extra quality white clover and basswood honey, put up in 10 and 17 gallon kegs, that I will sell at 8 cts. per lb. for the 17-gallon, and 8½ cts. per lb. for the 10-gallon kegs. Honey was all sealed before extracting. X. CAVERNO,
Lombard, Du Page Co., Ill.

FOR SALE.—Nine cents per pound for extracted clover honey, in ten-gallon kegs.
M. ISBELL, Norwich, N. Y.

FOR SALE.—2000 lb. white-clover comb honey; will pack in good shape, and deliver on board the cars here at 15 cts. from 100 lbs. upward.
JOHN CROMBIE, Columbus, Wis.

GOOD HONEY
For 8 Cts. Per Pound.

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A. I. ROOT, MEDINA, OHIO.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS
F.A. Whiting

Vol. XII. **DEC. 1, 1884.** **No. 23**

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THE "GOOD" CANDY.

SOMETHING FROM FRIEND DOOLITTLE IN REGARD TO IT.

SEEING my name mentioned in connection with the "Good" candy, on p. 728 of GLEANINGS, Nov. 1, I thought it might be best to define my position relative to that candy, lest some might think that I did not indorse it. I now believe I was the first one to try to use sugar and honey combined, as a food for bees in mailing-cages; but as I did not succeed in getting it in practical shape, the honor belongs to friend Good for so introducing it to the public that it would be of value. About three years before I ever heard of the candy as used by friend Good, and at a time when honey mostly was used in shipping-cages, I experimented largely with all kinds of food, by trying different kinds of candy in my cages as well as honey. These experiments were conducted in my shop, the cages of bees being put in a sack, and set in a dark place. Once or twice each day the sack was taken and thrown about the shop, after using it very roughly, after which it was returned to its place in the dark. An old worn-out queen was given to each cage, which also contained 12 worker-bees, so that all the conditions should resemble, as nearly as possible, those the bees must pass through in shipping.

Of all the sugar and flour, cream and hard candy, with and without water, none of the bees lived over 15 days (some living scarcely 10), while those with honey in comb, and with the Good candy, lived from 20 to 24 days, when the honey and candy kept their places in the cage. The trouble was I did not conceive the way of keeping them in the cage so that they would surely stay when subject to rough usage. The way I made the candy was to stir pulverized sugar in the honey, and, when quite thick, knead in more sugar till I had it hard enough so it would not run, when it was packed down in one corner of the cage, depending upon its adhering to the sides of the cage enough to hold it. But as it was no certain thing that it would stay, I gave it up, using honey in the comb for long distances, and the cream candy for a short journey.

When friend Good came out with his cage for holding the candy, or, rather, when friend Hutchinson told us of it, I at once knew the thing was practical, and so adopted it at once, and I have scarcely lost a queen in shipping since. In 1883 I sent one safely to Scotland, and others to the most distant parts of the U. S. Early this fall I started one for New Zealand in the mails, but it has not yet been heard from since it left San Francisco, Cal., as hardly time enough has elapsed. I do not expect this one will go through alive, as the friend's letter, who ordered it, was 36 days on the road.

Well, all of the above is only as an introduction, as it were, to what I wished to say; and if friend Root does not think it worthy of a place in GLEANINGS, he can clip it off. The point I wish to get at is, that from all the experience I have had, the sugar contained in the candy is not used by the bees in warm weather at all, but is thrown out as waste material; while when it is cold enough to confine the bees to the hive, or so cold that moisture is condensed upon the candy, then the sugar is used by the bees the same as they use rock or other candy in winter. On page 27, present volume, friend Fradenburg tells how the grains of sugar were carried out by the bees, where he tried to use the Good candy for feeding at a time when the bees could fly, and how these grains of sugar set the bees to robbing after they were moistened by the dew and rain. Replying to this, friend Root says he does not agree, and adds, "I have been telling you for months you must make the Good candy of *powdered* sugar instead of granulated. The finely powdered confectioner's sugar has the grain so small that the honey dissolves, as it were, and you have a smooth paste, almost like butter. We have used this exclusively for almost a year, and I do not believe it will rattle down as you say." Again, on p. 728, in speaking of still finer sugar and honey, we find these words: "This paint can not daub the bees, and yet they can eat every particle of it."

In both of the above I think friend Root is mistaken, for the fineness of the sugar adds only to the value of the candy in the way of its holding more honey than the coarse or granulated sugar does, as I believe that none of the sugar is used in warm weather. As bees can not be mailed in a temperature below the freezing-point, so that moisture will form in the cage, I hold that not a particle of sugar is used by the bees in such cages, and that the granulated sugar is no better than so much sand, and the finely ground sugar no better than so much finely ground plaster. I have a double proof for this assertion; the first of which is, that honey will not in reality moisten any thing as water will. If it will, why is it that a barrel which is thoroughly dry and tight will shrink so as to leak honey, when filled with the same? The reason is, that the honey absorbs moisture instead of imparting it, and thus the sugar incorporated with the honey is kept dry for the bees to rattle about in the cage or hive, and out at the entrance. My second reason is, that all queens I ship are caged from 20 to 30 hours before mailing, after which they are left without doing up, with the wire-cloth side of the cage down till the last thing before mailing. Upon lifting the cages I always find a little pile of fine sugar on the bench under each cage, which is certain proof that none is eaten, up to this time. Again, when I receive queens through the mails they often come just at night, in which case I frequently do not introduce them till the next day. When this so happens I untie the cage, pry off the wood cover, and lay the cage wire-cloth side down in my secretary, where they are left from 15 to 20 hours as the case may be, and upon removing I always find a little pile of the powdered sugar under the cage, although all was shaken out when it is placed there. Now, friend Root, if the "bees eat every particle of it," where does this sugar come from? Notwithstanding the above, I believe sugar to be the best substance to use in our cages, and the finest is the best, on account of its holding the most honey.

G. M. DOOLITTLE.

Borodino, N. Y., Nov. 17, 1884.

Friend D., it seems to me you are a little disposed to hang to a thing when you get started on it. May be some of the rest of us are afflicted in the same way, however, so we will put it down to a difference of experience. Perhaps the difficulty may be that you have not had the same kind of powdered sugar that we have. We wet up our sugar and honey several days ahead; and although I know that honey is disposed to absorb the moisture, and that honey-barrels often shrink, even when full of honey, I can not quite agree that the honey does not in any measure dissolve the powdered sugar. I have never seen any grains rattle out of the cages since using the powdered sugar, that I remember of; and as I have told you, we put this kind of candy over the cluster on the frames of a hive, and it was all used up without our being able to find a bit of sugar on the bottom of the hive. The candy used by Mr. Benton, for queens that come across the ocean, was, as I have told you, even smoother than any thing we have ever made. I should expect butter to rattle out of the cage as much as I should expect to see Benton's candy; and it seems to me, to get candy that is like his, we ought to have, as I told you before, something like a paint-mill to grind the honey and sugar until there are absolutely no grains about it.—In regard to the sugar being no better than so much sand, it seems to me you are a little hasty. I have kept bees and queens for some days, in warm weather too, when supplied with nothing but lumps of loaf sugar. I have done the same thing with rock candy, and for a long time we mailed queens quite successfully with a stick of dry candy, and no water whatever. Of course, the bees can not make much use of granulated sugar, because the grains roll around so they can not even get a chance to lick off the sugar. They might possibly take a grain at a time in their mouths, and put it on one side of their cheek, as a boy does a sugar-plum, for instance. Before we used powdered sugar, a great deal was wasted, I know, and it was a great nuisance to have it rattling about; but you can surely make candy by powdering the sugar with a hammer, or with a pestle and mortar with honey, that can not rattle out. Don't you think so?

OUR LAWS IN REGARD TO TRESPASSERS.

FRIEND POND TELLS US SOMETHING ABOUT THEM.

MY DEAR FRIEND:—In Our Homes for November you open up a big question, and one that affects our young particularly, and it is necessary, I think, that they should be set right. Human nature is prone to stand up for its rights; and when the idea gains, that the law will sustain, many will go further than they otherwise would. In this connection, then, I think the exact legal position of both trespasser and tenant should be known; and in order that you may be able, in case you follow the subject further at some future time, to give the law, I will state it herein.

In the first place, every man has the right to peaceable possession of his own property, and to remove any one trespassing thereon; *but*, in removing this trespasser he must use no more force than is absolutely necessary to cause the removal. The whole law is contained in the above sentence.

If the trespasser will go upon an order, and proceeds to go, no force is needed to remove him, and the law will not allow any. If he offers slight resistance, only just enough force should or can be legally used to overcome that resistance, and in no case would the owner be justified in resorting to the use of a weapon, unless he was first threatened by the trespasser. In the above I refer only to a trespasser who is simply objectionable, and not to one who comes as a burglar, or with arms in his hands, or with a force to back him up. In such cases the circumstances of each case would govern, and the law would not impose very harsh measures on the part of the person trespassed against.

I give you the above, as I see you mention my name, and I wish to again assure you that law is founded on common sense, and is a God-given gift to man for his protection. The country that makes the wisest laws, and sustains them in the wisest manner, is the one that will be the best governed, and in which the people will be the happiest. Law is not made simply to punish the guilty, but to protect the innocent; consequently when law, or justice, as we may call it, can be tempered with mercy (as, for instance, in the case of a young man led away to his first offense) it is far better for all that such be done. J. E. POND, JR.

Foxboro, Mass., Nov. 19, 1884.

Thank you, friend P. I am glad to know that my convictions of what the law ought to be were about right; and I think it well for us all to understand this matter. A drunken man once came on to my premises; and in spite of all I could do in the way of kind pleading, he became violent, and seemed determined to damage my property, if not myself. I ordered him off my premises. We were alone in the building, and he refused to go, and I told him if he didn't leave the room I should do my best to put him out by force. After I had taken hold of him, and he saw I meant what I said, he told me if I would let him go he would go out himself, and added, "Mr. Root, you know you have no right to lay a hand on me so long as I am going away according to your orders." And so he went out, but with considerable deliberation. It seems, intoxicated as he was, he knew more about the law in such matters than I did. I think we should bear in mind the very broad line of distinction that lies between a burglar or assassin, and a resident or citizen ordinarily peacable, although the latter may have got into a very bad mood, or, perhaps, for the time being, have forgotten himself.

BEE-KEEPING IN FLORIDA.

SOME QUESTIONS IN REGARD TO THE ABOVE, AND FRIEND HART'S REPLY.

MR. HART:—You answered a former letter of mine so kindly and courteously that I venture to take the liberty of writing again, hoping that you will excuse the intrusion on your time. I will state the case in which I want your advice, in as few words as possible.

My brother-in-law is anxious to make a home in Florida; and after studying all the inducements offered, feels inclined to select bee-keeping as the employment most congenial to his tastes, and the one holding out the greatest hope of quick return. He is ignorant of the business; but from my knowledge of his character and abilities, I feel absolutely no doubt about his fitness for the work, for he is one of those quiet, persevering men, full of resources, and skillful in doing whatever he attempts —a very good workman with tools, though never having followed that as a business. In fact, a man who is *bound to make a success* of the business, if he has any chance at all. Business here is so demoralized on account of hard times and low price of wheat, that there is going to be no show for men of small capital this winter, and may be for some years. The climate is a terror, and it is not worth while for a young man to waste his life here for a bare living.

He would go to Florida this winter, if he felt it safe to do so. Can I advise him to try bees? He will have somewhere between $1000 and $2000, family, wife, and three small children. He can build his own house, and do any kind of carpentry work, furniture-making, etc., to help make a living till he gets a start. His wife is very anxious to go, as this climate is too severe for her. Of course he does not expect to make a great thing; all we want to know is, would it be safe for him to try it? He looks forward to making an orange-grove as well, of course.

I know I am asking a hard question, but I feel sure you can give me some idea as to the possibility of his making enough to live on, and that is all he expects at first, with a prospect of doing better after awhile. If the business warranted it, I would supply capital to extend it as soon as it is prudent to do so. Of course, he thinks of locating somewhere in your vicinity, for location is every thing. Would his family have to fear malaria, or any thing of the kind? And are the mosquitoes and other insects intolerable?

Should you find time to answer me, I would take it as the greatest favor. You need not fear in regard to the man; he is in every respect capable. He can, of course, make all of his hives, and every thing of that kind.

I can not, I fear, go down myself this winter, but expect to make Florida my future home, for I consider it the most delightful climate I was ever in—a perfect paradise compared to this bleak region.

In regard to quality and color of honey, is it good?

Fergus Falls, Minn., Oct. 28, 1884. R. M. R.

MR. HART'S REPLY.

In reply to yours of Oct. 28, I will say: The qualities that you give your brother-in-law credit for are very desirable ones for any one coming to this State to locate away from the larger towns, as transportation is often slow, and mechanics are not always at hand to do odd jobs. They are also necessary qualifications for a bee-keeper, but yet I would not advise him or any one else to come here to start in the bee business with a hope of immediate returns, unless he has had considerable experience. No man should commence to learn the business with more than two or three colonies, increasing those as his knowledge increases. If he does this, the hives, fixtures, etc., for the first three years will take all the profits. He will be accumulating property, but have no cash to pay for living expenses. If he starts with a large number of colonies, the probabilities are that he will lose both money and bees. If he still wishes to try the business here, I would advise his passing one season, at least, with a successful bee-keeper first.

Yes, you can safely advise him to come to the State, and with the $1000 or $2000 he will be able to make a good start in some kind of business that will allow of his doing well, or he can work out a part of the time. Any one who can handle tools at all well can get $2.00 per day, and carpenters get $3.00 and $3.50 per day. A house that will answer for the first few years will cost but little, as it is not necessary to make its walls thick and warm. There are but few days in the year when a fire is needed for comfort. With a house built, and the family in it, bees and hens can be kept, and bee culture studied at odd times, until the knowledge requisite to running a large apiary is acquired.

There is little doubt but that his wife will be restored to health, as our climate certainly does work wonders in that direction. As to your friend's locating near me, I will say I am truly glad to have new neighbors; but if he is to keep bees, I would advise the south-west coast, or some location where the country is not so fully stocked with bees as it is here.

There is almost no malaria along the banks of salt-water rivers, or in the lake region of the interior. Along the low ground of the St. John's, or near stagnant fresh water, or where fresh and salt water come together, there is more or less fever, some years. It is the only prevalent disease known here, and is of a mild type, and easily cured. A fatal case is almost unknown. The insects (sand-flies and mosquitoes) are at times exceedingly bad along the coast. A little back from the salt water there are no sand-flies, and many portions of the State are almost entirely free from mosquitoes. Here on the coast we have netting on the doors and windows during the weeks that they are plentiful, and in that way keep out of their way. They seldom trouble much during the middle of the day, except in the heavy timber.

The quality and color of our honey is of the best. Rev. L. L. Langstroth said to me, "It can not be excelled." All the large honey dealers and producers of the North who have tested it pronounce it equal, and some superior, to white-clover honey.

I will further say, for the benefit of all inquiring friends, that I am not in need of help at present, either in my apiary or groves. I have help that has been with me from one to three years, and I am well satisfied with it. There is, however, plenty of work to be had at good wages, $1.50 per day being the usual price for common labor. Board is from $4.00 to $7.00 per week in the boarding-houses, some less in private families, and much higher at the hotels. Unimproved land ranges from government price ($1.25) to $100 per acre. W. S. HART.

New Smyrna, Fla., Nov. 14, 1884.

CRYSTALLIZATION OF SUGAR SYRUP.

SOME FURTHER FACTS IN REGARD TO THE MATTER.

ON page 761, last GLEANINGS, friend Doolittle in his letter describes his severe trouble with regard to the crystallization of syrup made of sugar and water, after which you, in your remarks, said that your apiarist says that "he has had very little trouble this season with crystallization, except where he had the syrup too thick." And further you quote, "He says he has fed many colonies where he saw no crystallization upon nor in the hives; while at other times, for some reason not known to him, unless it was because he put in too much sugar for the quantity of water, it turned back to sugar badly."

Now let me say, that in my experience crystallization is a difficulty which may be entirely overcome, if the sugar is properly melted. It is a well-known fact, that by boiling sugar down thick it will grain according to the amount of stirring it has. If it is stirred a good deal, the grain will be fine; whereas if it is stirred but little, the grain will be very coarse. And now I believe that if it is thoroughly melted, and not stirred at all, it will not turn back to sugar.

When it is melted directly over a stove, without being in a large dish of hot water, it will of necessity have to be stirred to prevent burning; but there is no necessity for stirring it after the sugar is dissolved, and it should be thoroughly boiled after it has been stirred. By using granulated sugar, one has to be particularly cautious in this direction; pouring from one dish to another before cold will often cause it to crystallize.

Since I read Mr. Doolittle's article I have, for the purpose of a late proof, taken granulated sugar and water, and boiled it down so that by setting it outdoors where it was freezing cold (24° F.) it became hard and brittle, and yet was as clear as when taken off the stove, and did not show the least indication of turning back to sugar.

Now let me ask, friend Root, if your apiarist, in looking back, will not find that the syrup that crystallized was not stirred more than that which remained liquid.

I am not in the bee business extensively. My number of colonies ranges from 5 to 15. It has been a very poor season here, basswood being a complete failure; my bees gathered their winter stores, and an average surplus of 20 lbs. from white clover. My increase has been from 8 to 14. I see by the reports that I am more fortunate than many, that I did not have to feed this fall.

I have kept bees five years; have not had any experience feeding a mixture of sugar syrup and honey, as friend Doolittle speaks of, but have had to feed sugar syrup several times, and have had some trouble with its crystallizing, and in the above I have tried to describe the trouble as found by my experience. L. H. BANNISTER.

Rochester, N. Y., Nov. 18, 1884.

Since you mention it, friend B., I do remember that when we were studying chemistry the subject of crystallization was gone over pretty thoroughly, and one of our old chemistries speaks particularly of the effect of agitation on crystals in saturated solutions. If a saturated solution be made by boiling, and allowed to stand perfectly quiet, it will often become quite cold without any traces of crystallization whatever; but a single stir with a spoon or paddle at the right moment would start crystals, and the whole mass would soon become full of solid matter. With some salts, the matter hangs on so delicate a thread, so to speak, that even striking the vessel containing the liquid a smart blow would set crystals at work; and after they once get started they would go through the whole liquid. In making rock candy, bits of string are suspended in the liquid, to start the rock crystals forming. After one crystal forms, the rest shoot out from it rapidly. A most beautiful experiment is performed by placing a drop of saturated liquid on a glass slide under the microscope. When the liquid has evaporated sufficiently, crystallization starts suddenly, and slender needles shoot out in a hundred different directions, almost at once; and, as if by magic, the drop of liquid turns suddenly to solid frostwork. Now, we can not feed sugar syrup very well without disturbing it more or less, but we can do this: We can take the hot liquid off the stove, set it out in the cold, and let it remain perfectly still until it is cold. It will then probably not crystallize. We prefer, however, to feed the syrup warm. May be this is one reason why we have trouble with crystallization one time and not another. The lots that were crystallized so badly were perhaps poured into the feeder while hot. It seems to me, however, that friend Doolittle's plan of putting in a little honey is the cheapest and best way. The honey contains sufficient grape sugar (I hope none of the friends will be frightened) to prevent crystallizing, the same way that the addition of a small quantity of commercial grape sugar did. There seems to be a sort of vegetable gum in honey, that stands in the way of the formation of crystals; therefore honey may candy, but it never crystallizes in dry solid forms, as sugar does. Queer, is it not, that candied honey, and dry granulated sugar, when melted together, will never get hard again? and also that they may be kneaded up together as we do it in the Good candy, and remain a pasty solid for years? When they are once melted there is no more candying nor crystallizing either.

HONEY-DEW FALLING FROM THE ATMOSPHERE.

A POSITIVE DECLARATION THAT IT DOES SO FALL.

FRIEND ROOT:—In your issue of the 1st inst. you deny that honey-dew falls from the atmosphere. You surely are in error. I have learned much from GLEANINGS and from your A B C book, and usually consider you very good authority. In the month of August, 1882, we had honey-dew fall from the atmosphere in such liberal quantities that about sunset we could not only see it descending in the air, but could catch it in our hands like drops of water. This was upon the high prairie, and miles from any grove, except such trees as had been planted since 1860, for shade and for ornament.

Again, I am afraid you are prejudiced against this honey, as you appear determined to call it "bug juice." My honey-dew honey of 1882 was equal in all respects to any I ever saw; was white, nice, etc., and gave universal satisfaction to my customers, who are even yet not done inquiring for that same kind. The present season we had another kind. I think it must have come up out of the ground instead of down from above. It is dark of color, with a rank strong taste, and extracted will sometimes work or ferment. If honey-dew does never fall from the atmosphere, how does it get out here on the prairie? and how did that upon which the children of Israel subsisted get to the desert? Please do not condemn it all. What was good enough for old Moses and his people should be plenty good enough for any modern epicure.

BEES ON RED CLOVER.

I shall have to own up in the matter of bees working on the red clover. I found mine doing so for the first time in my life last October. The first and best workers were, as usual, my "Americans," with no bright bands to brag of. The fellows wearing the "belt and the sash" appeared to stand around and look on. I *heard* one of them say to an American, "Good! you can dew it, we've seen you dew it, but we'uns can't dew it."

The Holy-Land queen you sent me came all right, and at once commenced laying.

I have now an A No. 1 swarm of very few bees left of the old kind; nearly every one appears to be a Holy-Land.

When I last wrote you, bees were just booming after several weeks of enforced idleness, and we were jubilant—the bees and I; but our hopes were suddenly cut short. The boom quite proved a fizzle after three or four days. Many bees are short of stores. Some are starved out already. Some show a disposition to swarm out. A fine swarm only a day or two since clustered on a fence-post near town. Occasionally a swarm had a fair surplus. I do not use the extractor, and I winter on the summer stands. Bees have been flying finely, and pretending to be busy at work until to-day a "norther" keeps them indoors. They were an intolerable nuisance around the cider-press, and I tried to buy them off with sorghum molasses, but they would not touch it. If my bees go through the winter all right, I think I shall claim that cider is good for them. J. H. WING.

Malvern, Ia., Nov. 16, 1884.

Friend W., I am very glad of the evidence you bring forward, yet I scanned your letter closely to see if you anywhere declared the substance which fell in the air was sweet to the taste when you licked it directly from your hands. If this is so, I suppose we shall have to give it up; but I have never heard of anybody who caught it directly upon his hands, and tasted it and found it sweet. No doubt it was sweet after it fell on the grass, leaves, etc., because the sweet substance was there already, incrusted on the leaf, and needed only the foggy morning you mention to dissolve it, so as to make honey-*dew*. Now, will you please tell us in regard to this one point? I can not tell you how the sweet substance became dried down on the leaves so as to be invisible until moistened, but our back numbers have pointed out several ways by which this might have happened.

A KANSAS LADY'S REPORT.

CYPRIANS, HYBRIDS, CLIPPED QUEENS, ETC., ETC.

FRIEND ROOT:—This has been the poorest season ever known in this locality. There was plenty of bloom clear through the season. By giving our bees every attention we managed to increase them from 25 to 53 colonies by natural swarming. We bridged nearly all the bad places by feeding. We worked 15 of the 25 colonies for increase, and the rest we kept down increase by taking away brood and giving to after-swarms. We let the colonies swarm all they would, and 12 of the 15 swarmed; 3 colonies swarmed once apiece; 5 colonies swarmed twice apiece; 3 colonies swarmed 3 times apiece, and the Cyprians swarmed 4 times. The first swarm of Cyprians superseded their queen, and swarmed twice again. Total, 28 swarms. None were lost by absconding. Only one young queen got lost on her wedding-tour. Her place was filled immediately by a virgin Cyprian queen. We had no laying workers in the apiary this season.

We have all our bees in fair condition for winter, but are doubtful as to the quality of honey, as it is not the same as we have had other seasons. If it were heart's-ease we should have no fear of the result. The latter failed us entirely. We have some honey to sell, and enough for our usual spring feeding. We predict heavy losses in all this section of the country, as a great portion, at least, of colonies that sent out new swarms are destitute of stores. Our small surplus came from first swarms, and colonies that didn't swarm. We tried all kinds of crates, racks, and wide frames over the bees for comb honey the past season, but the season was so poor that from over 20 hives we ran for honey in 1-lb. sections, we obtained only 100 finished sections.

THE HEDDON HONEY-CRATES.

We used 12 Heddon cases, and we believe them ahead of all others that we have used for comb honey. We tried two of those cases without separators, and every comb was built straight. Bees can become too strong to work advantageously in a single tier of sections, therefore we favor the tiering-up plan.

FOUNDATION IN THE BROOD-CHAMBER.

A great deal has been said and discussed whether it pays to use fdn. or not in the brood-chamber. This is a question to us like a good many others being discussed in regard to bee culture, and that is, your locality has a good deal to do with it. We were of the opionion last year that it did not pay to use fdn. in the brood-chamber. Our swarming season usually commences in May, and the honey-flow not until August. The bees have plenty of time to build comb, and usually build straighter comb from ½-inch starters. There will not be drone-comb enough built to pay for extra cost.

HYBRIDS AHEAD OF PURE ITALIANS.

In the past three seasons we closely observed (to our sorrow at first) where our largest yield of honey came from. It was from colonies that have a dash of black blood. These are facts with us, although it would nearly break our hearts when we would occasionally find our young queens had met black drones, and as a result these colonies turn out the strongest and best accumulations of honey. But you do not want to let the cross go more than once into the black blood. With us the latter have proved very inferior, while the Italian queen mated with a black drone has given us better honey-gatherers than pure Italians. If there is any honey to be had, the hybrids always manage to "get there," though in such a season as this they are the meanest bee on earth, except the blacks. They will not defend their hives as well as the Italians. They will sneak around the hive-covers trying to get in; and in four times out of five, if there is any trouble anywhere in the apiary, the hybrids are at the bottom of it, either robbing or being robbed. In a season, however, of continuous honey-flow we would prefer them for the following reason: They enter the sections sooner, swarm less, and we can take honey about twice as fast from them in extracting time; for all purposes and all seasons as they come, we will take the pure Italians, so you see we sometimes favor one and sometimes the other.

THE CYPRIANS.

Last March we sent to B. F. Carroll, Dresden, Texas, for a tested Cyprian queen, and introduced her to a full colony of Italians. We rushed this colony for increase by natural swarming to 7 colonies. We are of the same opinion as your neighbor H. about the Cyprians; that is, ours are the gentlest bees in the apiary. Through all our manipulations, and they were various, we did not receive a single sting from them the past season.

However, through their reputation for viciousness we handled them carefully—very carefully at first, often using no smoke, and very little at any time. My husband sums up their good qualities as follows: He thinks they are more intelligent than other bees. They do not follow you around the apiary like hybrids, and sometimes Italians, trying to pick a quarrel. They stay in their hives in bad weather, alight sooner when they swarm, and will run in sooner when they are dumped in front of the hive, and ours bore crowding well before they swarmed. As honey-gatherers they are superior to any bees in the apiary. This colony raised, with the first batch of swarms, 68 queen-cells. Another good quality, they are robber-proof with us, as we never see a robber fooling around the Cyprians very long at a time. One disadvantage we observed, but a different season might change this, that it takes the young queens an everlasting time to settle their quarrels, and get to laying. It took as long as four weeks after swarming before commencing to lay, and we coaxed by feeding at that; but when they do begin to lay, the eggs come by the wholesale.

CLIPPED QUEENS.

Here is the kind of fun we occasionally have. About four o'clock one Sabbath afternoon, when people were out enjoying the balmy afternoon, my husband sounded the alarm, "The Hayhurst tested queen is swarming, and she is clipped." Volume after volume poured out, and finally her ladyship was secured; and after the swarm had all got out, "one of the largest of the season," a hive was placed in the usual position. We waited for the swarm to return. They flew around, and spread themselves over nearly half of our town, trying to make themselves as conspicuous as possible, and the neighbors came flocking in from several directions to tell us our bees were swarming and going away. Finally they began to return, and tried to enter a hive about 50 feet away. The mosquito-net was brought out and thrown over the hive. This stopped that fun, and finally they began to cluster near by, deciding, we supposed, not to come back to the old hive and queen. We finally carried the hive and queen up to where they were clustering, and, holding the queen in the cluster, the bees kept pouring into the cluster from every direction in enormous numbers. Presently I noticed a hybrid bee going in the cluster, then another, until I could see hundreds and then thousands of them. Of course, I soon realized the fact that another swarm from the opposite side of the house had joined the fray. When the double swarm had clustered we found the queen that could fly, divided the bees, and put a queen with each; set them on their stand, thinking all would be well. In about an hour there were about two dozen bees with the unclipped queen, and in the hive where the clipped queen was there was about a quart of bees, hybrids and Italians mixed. Where the tested queen came from there were lots of hybrids; and where the hybrid queen came from there were strong reinforcements of the tested Italians. Some of the clipped queens caused us but little trouble; but I believe it is less trouble to hive a swarm in the natural way; and it seemed to us, or at least we imagine it, that a swarm with an unclipped queen gets down to business sooner and in better shape than one with their queen clipped. Remember, though, we are young about this, and no old veteran must prod at us for just considering it. MRS. M. F. TATMAN,

Rossville, Kans., Nov. 10, 1884.

FOUNDATION AND COMB HONEY.

FRIEND HUTCHINSON DECIDES NOT TO USE FOUNDATION IN THE BROOD-APARTMENT.

IN believing that the use of foundation is unprofitable, in most instances at least, Mr. Doolittle for a long stood alone; but during the past season, two or three have come to his support. I, too, wish to place myself by his side, perhaps not *exactly* in line, but near enough to give him good hearty support.

My first swarm, last June, was hived upon empty combs, the second upon frames of wired foundation, the third upon frames having "starters" of foundation one-half inch wide. This manner of hiving was continued until fifteen swarms had been hived, when the hiving upon empty combs was abandoned, as the bees would fill the combs with honey in a very few days — fill them so full that the queen found but little room to lay, then they "loafed" a long time before commencing work in the sections, and when they did finally begin it was in a slow, easy sort of way. Swarms hived upon foundation, or upon empty frames, would each have a case of 28 one-pound sections nearly finished before those hived at the same time upon empty combs had fairly started in the sections. In the former case the honey was stored in the sections; in the latter it was deposited in the brood-nest. Perhaps some one will ask why I did not extract the honey; and in reply I will say that I was not raising extracted honey; if I had been I should have had my hives and fixtures more conveniently arranged for that purpose. The bee-keeper who has only a few colonies can extract from the brood-nest, *if necessary;* but the man who is running a large apiary for comb honey does not wish to be "bothered" with any such operation, and I do not think it is advisable that he should. I have said nothing in regard to the bees again filling up the brood-combs with honey should it be extracted, instead of going to work in the sections, because I do not *know* that they would. It appears reasonable, however, to suppose that they would.

When the use of empty combs was discontinued, swarms were hived alternately upon foundation and upon empty frames until perhaps fifteen more swarms were hived, when sickness in my family rather upset things in the apiary, and seven or eight swarms were hived in succession upon foundation, and then an equal number hived in succession upon empty frames; thus it will be seen that, taking the whole season through, an equal number of swarms were hived upon foundation and upon empty frames; but, a small majority of those hived upon foundation were *earlier* swarms, which does not make the experiment so conclusive as it would have been had they been given foundation and empty frames alternately, throughout the entire season. An exact account was kept of the honey that was taken from each hive; and upon comparing results it was found that those swarms that had been given foundation had, upon an average, stored *two pounds* more honey per colony than those hived upon empty frames; but the two pounds per colony could be more than accounted for by earliness of some of the swarms hived upon foundation.

When hived upon foundation, no honey can be stored until the foundation is drawn; and just as soon as any of the cells are even partly drawn, the queen is ready with her eggs, and, as the bees are working in the boxes at the same time, they are not inclined to crowd the queen. I say the bees are working in the boxes at the same time, because I always give them access to the boxes at the time of hiving; and when the brood-frames are filled with foundation (*not combs*), or are empty, the bees have *always* taken possession of the boxes, and commenced working in them *at once.* On page 405, current volume, you, friend Root, say: "I wouldn't put the sections over any swarm until they had got pretty well started on the brood-combs, and the queen had commenced laying eggs; otherwise the whole family might move up into the sections, and begin housekeeping." My advice would be, put the sections on *at once*, and keep the queen down with a queen-excluding honey-board. Further along upon the same page you say, in substance, that you would give a swarm as many sheets of foundation as it could cover and work upon. I could not agree with this, if working for comb honey. If the advice were followed, where would be the force to work in the boxes? But I entirely agree with your remarks in regard to the energy with which a colony works when building natural comb.

When bees are hived upon empty frames, it is evident that no honey can be stored in the brood-nest until comb is built; and as fast as it *is* built, the queen occupies it with eggs, the honey being stored above in the sections, which, being filled with foundation, are more quickly filled with comb. With this method I have found a queen-excluding honey-board a necessity, as the foundation in the sections is drawn into comb sooner than comb can be built in the brood-nest; and the queen, unless restrained, will at once begin laying in the sections.

It is possible,—yes, *probable*,—that in the production of extracted honey it would be advisable to hive a swarm in a hive the brood-nest of which is filled with empty frames, and the super with frames of fdn., or frames of comb — a queen-excluding honey-board being placed between the two apartments.

I do not think there is any question but that the use of fdn. facilitates the building of comb. During an abundant flow of honey, bees can gather honey faster than they can build natural comb in which to store it; and at such times I *think* even Mr. Doolittle would advise its use in the surplus department, to a certain extent at least, *provided* there were no empty combs for that department. Mr. Doolittle, however, would probably not wait until the "honey shower" was upon him, but would have the combs all ready, they being built previously, and in a less expensive manner than to have bought fdn.; at least, Mr. Doolittle *says* he can have combs built cheaper than to buy fdn., and I believe no one has *proved* that Mr. D. is mistaken.

Somebody may ask if the bees did not build considerable drone-comb when not furnished fdn. No, they build scarcely any. With me, newly hived swarms having laying queens do not build drone-comb. Just before the bees began swarming I selected 25 of the best colonies, and inserted an empty frame in the center of the brood-nest of each. I did this because I wished for an abundance of superior drones. I think queen-breeders have not paid enough attention to this point; but, never mind about this now; it will suffice to say, that I secured the desired result; these empty frames were filled from top to bottom with drone-comb, and the combs filled with drone brood. The bees had not swarmed, and they desired drones; after they had swarmed they did not care for drones, consequently they built no drone-comb. When the young queens began laying in the old colony, they shunned the frames of drone-comb, even if they *were* in the center of the hive.

Of course, my experience has not demonstrated that, in some seasons and localities, and under some circumstances, fdn. may not be profitably used in the brood-nest; but it does show conclusively that I used it last season at a loss. I shall not be satisfied, however, until I have experimented at least another season. W. Z. HUTCHINSON.

Rogersville, Mich., Nov. 10, 1884.

Thanks for the result of your experiments, friend H.; but while they conclusively demonstrate that fdn. in the brood-apartment was of no value as you managed, I do not think it conclusive that we do not want fdn. in the brood-apartment even where we are raising comb honey. Colonies with sheets of fdn. and with empty frames have been tested side by side for years, and in thousands of apiaries. When the matter first came up, such experiments were made daily, and the results were, almost without exception, in favor of the fdn. But, of course, we almost all of us use the extractor to take out the honey when it is in the way.—In regard to giving swarms empty combs, I once paid what my friends thought a pretty large sum of money for a swarm of bees just as the basswood season was closing. I filled the hive with empty combs, above and below, and in two days the honey I extracted paid for my bees. Could I have got my money back in two days, if the colony had been obliged to build new combs? It seems to me, that instead of deciding we do not need fdn. or empty combs, we ought to decide that the method of management was not quite the thing.

One thing more, friend H. Your experiments were all made with the Heddon arrangement, if I am correct, with a honey-board and two bee-spaces between the brood-frames and section boxes. When I gave the advice I did about not letting the bees into the sections the first day the swarm was hived, I did not contemplate the above arrangement.

FRIEND LINDLEY'S VISIT TO THE CHICAGO CONVENTION.

ALSO THE WAY FRIEND L. BUILDS UP A HOME MARKET FOR EXTRACTED HONEY.

FOR the first time in my life I had the privilege of attending the bee convention at Chicago. It was quite a treat to meet with a lot of bee-friends — those whom I had been reading about for so long. Well, I got on to the train a great while before day; and as we went sailing along I was wondering whom I should see at the convention. As I took my seat I did not see any one whom I knew, but I felt as if I had fallen in with a lot of jolly fellows. I had the pleasure of seeing Prof. Cook, friends Newman, Hutchinson, and C. C. Miller, and a lot of other great and good bee-keepers. Friend Heddon was there. He had quite a lot to say in the convention, and right to the point on some things, but I do not think he is quite right about artificial honey being no detriment to the sale of pure honey.

For the last two years I have been going around to private parties selling honey, and one of the worst difficulties I had to contend with was, "Is it pure honey?" etc.; but I went right ahead selling the honey, but I do not think I shall ever be able to raise all the honey I can sell at from 8 to 15 cts. per lb. This fall the grocerymen are glad to get my honey to sell. One told me the other day he had no trouble to sell my honey; but if he told them he bought it in Chicago they would say at once that it was adulterated honey. Yes, I am building up quite a trade in honey, sending 200 or 300 miles for honey. I have this to say: If you want to build up a trade, first go from house to house, and give the folks a talk on honey; and, more than that, let your honey be nice and good; and if they talk slightingly of the honey at first, explain to them in a pleasant manner about it, and I think you will soon build up a good trade, so you can sell all the honey you can raise, at a good price; but if you want to sell your honey by the barrel, take all the pains you can to furnish good ripe honey, and wax the barrels, so if honey is taken out with a paddle it will not be full of black specks from the sides of the barrel, and, more than that, I have taken the heads out of barrels of honey, and would have to skim off a lot of trash—dead bees, etc. Please keep your honey nice, friends, if you want to sell it to me.

Georgetown, Ill. J. R. LINDLEY.

THE FIBROUS MATERIAL FOR CAPPING BROOD.

Where do They Get it?

ALSO SOMETHING IN REGARD TO POLLEN PACKING, AND HOW IT IS DONE.

ON page 746, Nov. GLEANINGS, Mr. C. F. Uhl asks what bees get to cap brood with, and the editor asks, "Who can tell us where it comes from?" Some two or three years ago this subject was written upon a little, and some called the bees crazy when they were "raking hay" on their alighting-board; but I suggested that there was "method in their madness," as I believed they were scraping up a fibrous material, to be used in capping brood. Now I can throw a little more light on the subject.

When I first began bee-keeping I made several quilts to cover them, and stuffed them with cotton batting. This last summer I used one of those quilts to cover a nucleus, by putting one end over the frames, and letting the other hang down over the side of the comb. After having been there some time I found it stuck quite fast to the comb, and found the cotton completely woven in with the cappings of the brood, the outside lining having been previously eaten away; and on lifting out the comb I found considerable of the cotton had been carried around on the inside, and also some taken to the next comb, and also woven in with the cappings. There was so much cotton used that it was very plain to be seen; so this settles the matter, in my mind, that the bees do use a fibrous or lint substance in their brood-cappings, and I am convinced that they get it from whatever source they can best, and that they get a large supply from wood surfaces.

HOW DO BEES GET THE POLLEN TO THEIR POLLEN-BASKETS?

This has also been much wondered at, and I can now give a little more information. Last spring I fed my bees on meal, and I used to frequently watch them at work, and found they would handle their first pair of feet in connection with their mandibles, in picking up and moistening the meal; then with the first pair of feet they would move the meal back and paste or pad it to the under side of their thorax, or what I might call their breast; then with their second pair of feet they can easily reach it there, and with them move it back to their hind legs to what is called their pollen-baskets. I saw this done so many times that I am not mistaken. I do not know that they always manipulate the pollen in this same way, but I know they did the meal.

A. A. FRADENBURG.

Port Washington, O., Nov. 10, 1884.

THIS SEASON'S EXPERIENCES IN INTRODUCING QUEENS.

SOME VALUABLE SUGGESTIONS FROM FRIEND POPPLETON.

THIS season has been one of advancement in this part of our business; and while I have little to add to what has already been published, a statement of actual experience may be of value to some.

UNFERTILE QUEENS.

Mr. Alley, in his work on "Queen-Rearing," p. 25, says that unfertile queens can be introduced by letting the colony or nucleus remain queenless at least three days, and using tobacco smoke. I followed his directions closely during the season of 1883, losing about 10 per cent. This season we abandoned the use of tobacco smoke, using common smoke instead, with fully as good results. I am not satisfied that smoke of any kind is necessary; but I do not know that it isn't.

Mr. Alley gave us the fact that nuclei, after being queenless at least three days, would usually accept unfertile queens; but to Mr. Doolittle are we indebted for the reasons why (see p. 407, current volume of *A. B. J.*). He says that colonies having *sealed* queen-cells will usually accept young queens, and this fact gives us more latitude in our work than if we were closely confined to Mr. Alley's instructions. My experience covers the introduction of nearly 200 unfertile queens; and while the loss has been a little less than 10 per cent of those introduced on the third-day of queenlessness, I do not know of the loss of a single one when the introduction was deferred until we knew by examination that sealed cells were present. This rule applies only to the introduction of unfertile queens into weak nuclei. When we undertake to introduce such queens into very strong nuclei, or to full colonies, the failures have been so many as to make such work unprofitable, and we think it pays better to use fertile queens in such colonies.

My wife always helps me when introducing our queens, and we proceed as follows: We always do this work in the evening, about sundown, using queens of any age, from just hatched to 6 or 8 days old. We first puff a little smoke in the entrance, to cause the bees to set up a roar, when we immediately let the queen run in at the entrance. Wife then gives the nucleus a severe smoking, while I am making the proper record. I do not know that this severe smoking is necessary, but my wife thinks it is, and, of course, I let her have her own way.

FERTILE QUEENS.

All experienced bee-keepers know the importance of promptly replacing all old or failing queens. To do this we have to introduce young fertile queens to large populous colonies, and I must admit that this has heretofore been the most dreaded of any apiary work we have had to do; but this season's experiences have very largely dissipated that dread.

Some of us have been very near the right track in this matter, we having last year used nearly the correct method, quite successfully too; but to Mr. Simmins, an English bee-keeper, are we indebted for the complete method.

The operation is simply this: We always use standard frames in our nucleus hives for queen-rearing, and we go to one of these that has a laying queen, lift the frame on which the queen happens to be, with adhering bees and all into a carrying box; then go to the hive from which we wish to take the old queen, find and kill her, and immediately insert the frame from the box,—bees, queen, and all; close up the hive, and the thing is done.

Among the advantages of this method are: Fair success, a saving of labor over other methods, and no interval of non-egg-laying in the hive.

Mr. Simmins' article (p. 456, *A. B. J.*) is very practical and correct, so far as I have tested its teachings; but he makes one decided mistake in claiming the method to be invariably successful. I don't believe there is any known method of introducing strange queens to full colonies that is certain of success *every* time, and this method follows the general rule. Mr. Simmins gives us no idea of the extent of his experience, so we can not know how valuable his statement of his success is. My own experience covers the introduction of 26 queens, the first 19 of which were accepted. Had I stopped here I could have truthfully said that the method had been a perfect success; but of the last 7, two were killed, thus resulting in an average loss of one in 13, which is more satisfactory to me than any other method I have tried, taking into account all the advantages over other methods. I presume all the introductions would have been successful had I used the ordinary precaution of feeding during a dearth of the honey-flow, as was the case during the last half of the experiments; but this precaution was purposely omitted for experimental purposes.

O. O. POPPLETON.

Williamson, Chicka. Co., Ia., Sept. 27, 1884.

Thanks for the facts you furnish, friend P. The Simmins process, to which you allude, is not by any means new. We gave quite a lengthy extract from Mr. Simmins' book on introducing queens, on page 130, GLEANINGS for March, 1883. Please notice my remarks at the end of said extracts. It seems to me the success of all of these plans hinges greatly on the fact that seems to be so little known—in a great majority of cases the queen may be let loose among the bees, without any caging or introduction. However, I am satisfied it is quite an advantage to introduce a queen on one of her own frames, covered by her own bees. If the colony accept the strange bees thus brought in, they as a rule accept the queen also, and almost any colony will rejoice over a nice comb heavy with honey, filled with brood and pollen. There is no need of fighting the new comers as intruders, for even *their* little heads are able to recognize at a glance that such an arrival is a positive gain all around; and if a queen comes along with them, they seldom make any fuss about it. The process had been years in use, however, before Mr. Simmins' book was published. As Mr. S. has, nevertheless, given us a good many new and valuable facts on the subject of introducing, I would refer our friends to the article mentioned.

CAN A MAN MAKE $64,800 IN 5 YEARS, KEEPING BEES?

THE FIGURES THAT NEVER LIE.

THE sample copy of GLEANINGS has just reached me, and I am surprised and pleased to find it a publication of such a substantial character; and as soon as I locate I shall take pleasure in becoming a subscriber and a purchaser of your bee-necessities.

In reading the various articles I am struck with several things: 1st, The ratio of increase of bees; 2d, The large yields per hive claimed by your correspondents.

Let me use a few figures which these articles call out: A man starts in the year 1885 with 100 stands, and the ratio of increase is 200 per cent (much less than the ratio claimed by W. R. Pinkerton, page 599).

In 1885,	- - - - - - - - -	100 hives.
" 1886	(200 per cent and 100 hives),	300 "
" 1887	(" " " 300 "),	900 "
" 1888	(" " " 900 "),	2700 "
" 1889	(" " " 2700 "),	8100 "

In 5 years, a man starting with 100 hives, or stands, has 8100 hives, or stands. Now let the yield be 200 lbs. per hive (nothing unusual for California, so bee-men tell me), and the yield the 5th year is the enormous amount of 1,620,000 lbs. Looking at the market reports I find honey quoted at 4 to 6 cts. per pound, which would make the yield of the 5th year worth (taking the lowest figures, 4 cts.), $64,800. I have now reached my conclusion, and now comes the wherefore of this letter. I wish to ask you if *such figures are possible?*

I know the attending cost has not been reckoned; I know that that number of bees can not be kept at one place; but the cost can not possibly reach one-half the amount, leaving a profit of $32,400, and the second objection can be overcome by saying that that part of this State which is suitable for bees is very large, and any one might own several apiaries. Please be so kind as to point out to me if these are facts; and if I have gone astray, please let me know where. W. B. JOSSELYN.

San Francisco, Cal., Nov. 5, 1884.

Friend J., you have struck right squarely on one of the great troubles in bee-keeping, and, for that matter, in almost any kind of business. Why not put it this way? A store-keeper makes $1000 a year in keeping store, and therefore why can't a man have 100 stores and make $100,000 in one year—that is, if he could furnish the capital to start them, or he might start small, and then set up the new stores as he went on? The trouble is in getting somebody to manage. Many a man finds that he can manage a business so as to make it worth $1000 a year, by giving it his personal supervision; but it is beyond his ability to start another business just like it, and find the man who would do as well at a salary as the owner. Again, there are plenty of men who can manage a dozen colonies of bees so as to make them pay 200 or 500 per cent, in a single season. Now, even if the locality would support ten times as many hives, the owner has not the ability to do as well with 100 as he could with a dozen. The man is found too small. We occasionally find a bee-keeper who will manage 100 hives, and make them do well, but nothing near as well in proportion as he would a dozen. We have a few men who, with hired help, can handle 1000 hives, but the profits usually come down to a good deal less than 200 per cent when one man "spreads himself," if I may use the expression, over so much property and so much responsibility. We see this matter demonstrated every day, right before our eyes. A man does well with a small business. He enlarges it, the profits diminish, or perhaps go down to zero. Now, the only way for you and everybody else to do is to take your own business "dimensions," by a practical test. Get four or five hives of bees, and see what sort of report you can make. If every thing goes well, try ten; for in another year your bees will increase to that number, or more, if well managed. Then try thirty or forty. Whenever you find the profits are going down toward a losing business, if you are a prudent man, of course you will hold on. Don't enlarge any more—at least until you have, by more mature experience, found out you can do so safely. Most of our failures in business come about just because we are not contented to work small until we have proven beyond doubt that we are equal to the task of doing things on a large scale.

INSECT-POWDER PLANT.

PYRETHRUM CINERARIÆ FOLIUM.

THERE has been so much interest manifested in this new insect-destroyer, pyrethrum, that we give the following, which one of our friends sent us, taken from, we judge, a California paper. I may remark here, that we have a plant in our greenhouse, *Cinerariæ*, which much resembles an engraving which accompanied the article below, from which I infer that pyrethrum could be reared here in the States without trouble, especially if your plants were started indoors.

Since the above was written, one of our girls in the office informs me she has pyrethrum-plants in blossom, and has had for a couple of years, though she never tested the dried flowers for destroying insects. We will see to it at once, and report.

Probably every reader of the *Bulletin* is more or less familiar with insect powders produced from different species of pyrethrum; but that made here from *Pyrethrum Cinerariæ Folium*, the Dalmatian variety, which was introduced into this State some years ago by G. N. Milco, has proved itself superior to the imported article, and is rapidly driving it out of market.

The genus *Pyrethrum* belongs to the family of *Compositæ*, and includes many of our commonest plants, such as the Golden Feverfew, now so plentiful in gardens, and the Ox-eye Daisy, a too common weed in the Eastern States. *P. Cinerariæ Folium*, has a profusion of flowers, on stems from one and a half to two feet high, very similar to the Ox-eye Daisy.

Mr. Milco writes us that the plant is in full bloom in May, when the field is almost as white as snow, but that it continues to yield a few blossoms until the heavy frosts set in. The insect powder is made by grinding the dried flowers, which are gathered for the purpose when in full bloom. All parts of the plant, however, seem to be impregnated with the volatile oil which is so destructive to insect life, and may, therefore, be used in the form of a decoction that may be cheaply and effectively applied to trees and plants. Professor Hilgard of the University of California writes as follows in regard to this use of the plant:

> Like all volatile oils, the essence of *Pyrethrum* is slightly soluble in water, and I think, from my experiments, that *the tea or infusion prepared from the flowers*, which need not be ground up for that purpose, is the most convenient and efficacious form of using this insecticide in the open air; provided that it is used at times when the water will not evaporate too rapidly, and that it is applied, not by pouring over in a stream or even in drops, but in the form of a syringe, with fine holes in its nose. In this case the fluid will reach the insect in spite of its water-shedding surfaces, hairs, etc., and stay long enough to kill. Thus applied I have found it to be efficient even against the armored scale bug of the orange and lemon, which falls off in the course of two or three days after the application, while the young brood is almost instantly destroyed. As the flower tea, unlike the whale soap, leaves the leaves perfectly clean, it is preferable on that score alone, and in the future it can hardly fail also to be the cheaper of the two. This is more likely, as the tea made of leaves and stems has similar, although considerably weaker effects; and if the farmer or fruit-grower were to raise the plants, he would save all the expense of harvesting and grinding the flower-heads, by simply using the header, covering the upper stems, leaves and flower-heads all together, as he would hops, and making tea of this material by the hogshead. It should be diligently kept in mind that the least amount of boiling will seriously injure the strength of this tea, which should be made with briskly boiling water, but then covered over closely, so as to allow of as little evaporation as possible. The details of its most economical and effective use, on the large scale, remains, of course, to be worked out by practice.
>
> Some observations reported to me seem to render it probable that the cultivation of the *Pyrethrum* between the rows of other plants, will in a great measure protect these from the attacks of insects, as, of course, the plants themselves are let severely alone by them. It might even seem worth while to try this plan against the phylloxera, in so far as the winged insect could scarcely escape the deadly effects of the pyrethrum, thus preventing its spread.

Professor C. V. Riley, Chief United States Entomological Commissioner, devotes considerable space in his report to an account of the successful application of the California-grown powder to the destruction of the cotton worm in the Southern States. He writes as follows:

> Some interesting experiments made during the past year on different insects by William Saunders, of London, Ontario, show that the use of this powder may be satisfactorily extended beyond the household, while a series which I made in the summer of 1878 with the same powder on the cotton worm showed it to have striking destructive powers, the slightest puff of the powder causing certain death and almost instant dropping of the worm from the plant. Repeated on a still more extensive scale the present year at Columbus, Texas, the powder proved equally satisfactory in the field.
>
> Here, then, we have a remedy far exceeding any other so far known in efficacy, and harmlessness to man and plant, and the only question in my mind has been to reduce its cost.

In regard to the cost of the material, he says:

> The powder is now selling in California at wholesale, in eight-pound packages, at $1.25 per pound; but from facts kindly communicated by Mr. Milco, it appears that he raised as much as 647 pounds to an acre, and that the cost of the production, milling, etc., on a large scale, need not exceed six to seven cents on a pound, because in the experiments attending the introduction of the plant many obstacles and expenses incident to new enterprises have had to be met. The plant is wonderfully free from insect enemies, and blooms all through the summer, and there seems to be no reason why it should not grow in most of the Southern States.

Besides the uses above referred to, the powder is successfully applied to the extermination of all kinds of household pests, including flies, fleas, bedbugs, mosquitos, ants, roaches, and moths. It is used to rid cattle and horses of vermin, and to destroy weevil in grain stored in warehouses, while a decoction has been used effectively in curing scab in sheep. The writer has frequently, by the use of a teaspoonful of the powder, blown from the hollow of the hand, so as to diffuse it through the air, destroyed every fly in a room, though they numbered thousands, and in one hour from the time the application was made the dead insects could be swept up from the floor. One of the employés of the *Bulletin*, whose duties frequently take him long journeys in the country, never goes unprovided with a bottle of the insect powder. If he chances to lodge in a locality where mosquitoes are plentiful, all he has to do to secure a quiet night's rest is to blow a little of the powder into the air of the room before going to bed. Unlike many insecticides, it is perfectly harmless to man.

Following are the directions given by the Stockton Company (who offer to purchase all properly cured flowers) for cultivating the plant on a large scale:

SOWING THE SEED.

> Before sowing, prepare a seed-bed three feet by fifteen, completely pulverizing the whole surface of the bed. Fill a tin pan with sand or some finely sifted loam, and mix the seed thoroughly with the soil in the pan; sow this mixture over the bed as evenly as possible, and sift fine loam or sand on top, just covering the seed about an eighth of an inch in depth; then cover the entire bed with a thin mulch of dry grass or straw. Sprinkle carefully every evening until the seed sprouts; afterward once every three days will be sufficient. When weeds appear they must be carefully removed by hand, until the plants have five or more leaves, when they are fit for transplanting. All transplanting should be done during the rainy season, the best time being the months of December and January. While they will flourish on any except alkali land, sandy or loamy soils are best adapted to the growth and vigor of the plants.

TRANSPLANTING AND CULTIVATING.

> Before transplanting, plow the ground ten to twelve inches deep, and put the plants four feet apart each way, which will require 2722 plants for each acre. Cultivate both ways with a one-horse cultivator three or four times during the spring of the year, using the hoe freely around the plants whenever weeds appear. The plants grow readily without irrigation in any country where the rainfall reaches twelve inches during the year. If irrigation should become a necessity, apply it in furrows or shallow ditches between the rows, and in the same manner as with corn. Never plant on land subject to overflow, as flooding will surely kill the plants.

GATHERING AND CURING.

> They usually begin blooming in April or May, and the flowers should be picked when in full bloom, and before going to seed. Place the flowers, when gathered, in clean, tight-bottomed boxes, and dry them in the sun, stirring them several times each

day. They will generally cure in two or three days; to be sure of this, pulverize a few between your fingers, and if the flowers separate readily they can be packed tightly in grain-sacks for transportation to the factory. While drying, remove the boxes under cover before sunset every evening, replacing them in the sun early next day.

AFTER TREATMENT.

After picking your crop of flowers, cut the plant close to the ground, using sheep-shears, hand-sickles, or any other effective instrument. The leaves and stems, either in infusion or decoction, will make a valuable wash for sheep, trees, or plants. It grows larger each succeeding year, but does not yield a heavy crop before the second season. It is perennial, and any animal can eat it with impunity; insects only leave it severely alone, it being harmless to the former, but sure death to the latter.

It is believed that this plant will soon be extensively cultivated, and will prove to be one of the most useful allies to the farmer or horticulturist in his warfare with insect enemies. We have secured sufficient fresh seed to send each applicant a small package, by means of which he can test its culture and usefulness.

A LITTLE EPISODE IN BEE-KEEPING.

A WORD OF CAUTION ABOUT HANDLING SMOKERS.

IN June, 1882, I sent you one dollar for a dollar queen, supposing one to be $1.00, any summer month. I received her June 19 all right. She was small, and not attractive. At that time I had two swarms of blacks — one queenless, in chaff hive, made according to directions in A B C. I will here state, that no carpenter would undertake making them, and I, in my spare moments, made each piece separately, and put it away. When I put them together, all fitted nicely, and made me two hives I am proud of. Well, I introduced the queen that night. She was received, and immediately began laying, and growing handsome, so that, by August 15, I had a quiet, kind swarm of pure Italians. I was proud to show them, especially the queen, to my friends.

Well, about Aug. 20, 1882, I took my smoker, filled with rotten wood, and introduced two frames of foundation. As they were weak when I put in the queen, I covered them with a piece of quilt, which I let remain. When I came home at night, I went out as usual to see my bees. I found my yellow pets covering the whole front of the hive. I did not understand it; but when I lifted the cover it was all too plain. The sparks from the smoker had ignited the quilt, and the inside of the hive was a mass of melted comb, honey, dead bees, and soot. I sat down, and almost had an attack of blues. I wanted to cry. I hived them in a box, cleaned the hive, removed the frames, put in two sheets of fdn. and two combs of brood from the other hive; and after searching in vain for my queen, I returned them to their old home.

In 1883 I had one swarm from the other hive, which I united in the fall with the Italians, giving me two swarms. Neither has swarmed this sea on, but I have taken 32 lbs. section honey from one, and have some on the other. I moved from Monroe (where they are) July 2, so I see them only occasionally. In November I shall move them here, where I have no place but a flat-roofed shed to put them, but I think it may prove a good place.

Bees have wintered so badly here that only a few men have bees. In fact, I know of only 6 who have them, in a circle of 12 miles radius. I use chaff cushions, and winter outdoors, feeding syrup from granulated sugar, eating the honey. I have lost no bees in any manner except my deplorable fire, since I began in April, 1882.

After losing my queen and brood I raised a black queen, and now have only blacks; but next season I intend to send for an Italian, and Italianize all I may have. The care of bees and eating the honey are the pleasantest things I do, though deriving more pleasure from the former.

Reading some of your honest words in GLEANINGS to-day reminded me of the 25 cents, which I send, and put me on my honor to send it. When I get Italianized and regulated, so my bees again show a balance on credit side of profit and loss account, I am going to take GLEANINGS.

C. F. ATWOOD, M. D.

Winterport, Maine, Sept. 2, 1884.

Friend A., quite a number of accidents, such as you mention, have been noted. Before puffing smoke into the hive, it is well to always give your smoker a shake, and a good puff or two to get out all sparks, then blow moderately into the hive, and there will be little danger of any thing igniting. It may be well, however, to run your eye through the hive and over the mat or quilt before putting the cover on. The enamel sheets are not likely to catch by a spark, like the burlap, and especially the cotton quilts we used to use.—We trust your experience in Italianizing will be a little more favorable next time.

MAKING THE GOOD CANDY.

JUST HOW TO DO IT.

WHILE there is being so much said about the Good candy, would it be taxing your time too much to let me tell you how I make it, and what success I have had? In the spring of 1883, friend Good paid me a visit, and while here he told me how he made the candy. A few days after, I received an order for queens, so I concluded to try the Good candy. I made it as he had directed, of honey, and granulated sugar, but it didn't suit me; it would crumble, and get down among the bees, and out of the cage. I then tried pounding the sugar up fine, but still I didn't succeed to my satisfaction. I then went to the store and bought what we call in this market icing sugar, used for ornamenting cakes. Of course, you know all about icing sugar. Now I will tell you how I make it. I pour my honey in a plate, or dish; as I put in my sugar I stir it until it gets stiff, then take it in my hands, and work it like making dough for bread. Every few minutes I roll it in the dry sugar, to keep it from sticking to my hands. I continue to work it until it is very dry. After it stands ten or fifteen minutes it will soften some, but not enough to run, if properly made, but will remain soft and juicy, and looks like butter; there is no crumbling about it.

I have been using candy made in this way for the past two seasons, with the best of success. I don't think there is any thing to equal it. It takes a little practice to make it well. Try it for yourself, then tell the brothers all about it.

On the first day of August, 1883, I sent a queen to one of my customers; on the 21st day of the same month she was handed back to me, having been the rounds, marked on cage, "Not called for." I of course thought them dead; but when I inspected them I found them all alive but one worker. He may have been an old bee, and might have died during the time had he remained in the hive. Candy made of this fine sugar and honey is nice for winter feeding. Just lay it on top of frame, under cushion.

Columbia, Tenn., Nov. 12, 1884. C. C. VAUGHN.

Friend V., your process is exactly the same as ours, and your icing sugar is what we call pulverized sugar. It is now worth by the barrel 8 cts., and we retail it at 9 cts. per pound.

HONEY-DEW THAT IS NOT PARTICULARLY UNPLEASANT.

FRIEND CARROLL'S REPORT OF IT IN TEXAS.

THIS being one of the dryest and hottest summers ever known in Texas, no rain from June 16 to Oct 24, to see bees gathering honey during our hottest weather was rather unusual. About the first week in August my bees began to work heavily on something, from the early peep of dawn until 8 or 9 o'clock A. M. the little fellows came in so heavily laden they would turn summersaults in front of the hives, and I began to fear they would break their little necks. I had a negro man cleaning up a pond of willows, and he told me it was difficult to work for fear of being stung by the bees. I went down to the pond about 6 o'clock A. M. and found this nectar not only on the leaves, but actually dripping from the bark, and in the crevices between the rows of the rough bark; and hundreds and thousands of bees were crawling frantically up and down the body of the trees, and insects of various kinds by the millions assisting to gather this grand flow of nectar, while the plant lice, or aphides, could be seen by the millions, and by a close watch with a lens I could see these same lice depositing this honey-dew (so called) in the crevices of the bark; and in some crevices they would accumulate in such quantities that this stuff would actually run for an inch or two along the crevice. I send you a sample of the stuff, with about one-fourth cotton honey mixed, as the bees were getting a little honey from the cotton at the time.

No frost yet; bees will have to be fed early in the spring, on account of the long drought of four long months

Spring count, 50 colonies and 25 nuclei; fall count, 120 colonies and 50 nuclei. Honey, 140 lbs. per colony, spring count. Best yield from one colony alone, 337 lbs. I am very well pleased with my year's work.

MOTH WORMS ON CAKES OF BEESWAX.

I have this year seen moth larvæ at work in a sack containing beeswax. They work between the cakes. My wife first called my attention to this fact. B. F. CARROLL.

Dresden, Texas, Oct. 28, 1884.

Thanks, friend C., for the sample. I should have pronounced it willow honey, judging from the specimens I have had from the South. The color is good, and the flavor is very fair. I think it would retail here at 9 or 10 cts.—In regard to the moth worms, a good many times cakes of wax contain quite a little pollen, which has accumulated at the bottom as a sediment. The moths will work in this as well as in honey-comb, and may be they will work to some extent on pure wax, although I think they seldom do much harm, unless some pollen also is present. Under the influence of a little pollen the young worms grow with amazing rapidity.

RECEPTACLES FOR STORING HONEY.

ALSO SOMETHING ABOUT SPREADING BROOD.

A GOOD receptacle for holding honey, wax, syrup, and other accumulations around an apiary, is easily obtained by going to your hardware merchant or your druggist, and request him to save you any castor-oil tins that he may have to spare. These tins hold about 40 lbs. of castor oil, and when received by the merchant (I speak as a druggist) are opened by punching two holes in one end of it, one as an entrance for air, and the other for an outlet for the oil. These tins, when empty, are generally thrown away, unless given to a customer to carry home machine oil in, so that, if your custom is appreciated by your merchant, he will willingly give you them for the asking.

The first thing to be done with them is to cut off the top, which is easily done with a hammer and an old chisel, or, better still, by a pair of tinner's shears. Now hammer down the rough edges, and with half a pail of sawdust proceed to clean it out. You will have no difficulty in doing so with this, as it will gather up every drop of oil, and leave the can as polished and bright as you could wish. Possibly in opening the can, the merchant cut the holes in the wrong end, which will make it a little harder to clean. When the can is originally filled with oil, the hole through which the oil is poured is soldered up; and although perfectly tight it leaves a rough ring on the inside, around which the oil accumulates, and is, therefore, a little harder to get out, or to clean it at any time afterward. If your merchant promises to save you any he might have in the future, you could make bold to ask him to open the can the same end as it was filled. These tins are particularly useful for holding bits of combs, wax from the extractor, refuse honey for feeding-back purposes, syrup, etc. I am not aware that any objection could be made against them for evaporating honey, providing you could obtain a sufficient number of them; but outside of this I find them a *cheap* receptacle for various things.

A good use for one is to lay it flat on a shelf, in which to put your smoker when not in use. It will remove any danger from fire, even though a coal should drop out. I think this precaution is very necessary, as it would be an easy matter for a large fire to originate by a carelessly handled smoker.

I frequently see recommended, in bee literature, a quill toothpick, with which to clean bits of wax from die-plates and foundation-rollers. A two-cent bone crochet-hook, which has been sharpened to a point, is worth all the toothpicks you can carry, for the purpose described.

A good indication, when a colony of bees in the spring season may possibly permit any spreading of brood, is when, by placing your hand before the entrance on a cold day you can readily feel the heat proceeding from the hive. If no warmth is perceptible you must on no account give another frame. This is not an infallible guide, but it may be made a help to the beginner. I do not say that every hive that sends out heat from the entrance will stand another frame without injury; but I do say, that I would not think of inserting another frame unless it did; but, on the contrary, I would examine it to see if it had not already too many frames.

G. A. DEADMAN.

Brussels, Ont., Can., Nov., 1884.

A BEGINNER'S EXPERIENCE.

LOSING 7 FIRST SWARMS, ONE AFTER ANOTHER, BY ABSCONDING.

I HAVE been making a study of the bee-question for something like a year, under the guidance of the A B C book and GLEANINGS; and as I had occasion to write you on business, it occurred to me that in writing to my teacher I ought to report progress, and here goes.

I procured an A B C book; had then 11 stands, as *we* term them, of black bees; got a Barnes foot-power saw, one load of "D" white-pine lumber from Springfield, Mo., paying $3.75 and $4.50 per 100 feet for the same. I then sent to you for sample Simplicity hive with frames, and subscribed for GLEANINGS. By this time I had the bee fever, sure enough, and went to making hives, frames, and mats, following your instructions pretty closely. I was nearly wild with impatience, waiting for my first swarm, which finally came off May 28. I put them in one of my new hives, and they went to work business like. Next day I had another swarm in the evening, and treated them precisely as I did the first, and the next morning they mustered bright and early and made a bee-line for the woods. This was a new experience to me. However, I started my boys after them, who finally found them about half a mile from the house, and brought them back. I put them in a fresh hive (I had no frames with comb to give them), and the next day they put out for good. I remembered Dr. Peters' statement about the "scouts," and moved the next swarm just as soon as the bees got about quiet. It didn't work; they went like the first, and this state of affairs went on until seven fine swarms went "where the woodbine twineth," and the fever now become a "chill." One neighbor consoled me with the thought which he earnestly tried to impress on me, that my bees were "old-fashioned" bees, and did not like my "new-fangled" gum. Just for a moment I would have liked to see him detailed off on a Greeley relief expedition, where bees, at least, would not bother him.

Finally I got one or two to stick, and got some frames with comb to give them to commence business on, and things went on smoothly. In August I transferred 4 hives from plain boxes into S. hives successfully, and have now 11 S. hives, mostly single, in good condition for winter—at least I think so. They have from 8 to 20 frames pretty well filled. I got 31 gallons of honey, mostly of the honey-dew kind, which I am now feeding them to get rid of it. I have still 5 hives in boxes, and regret very much that I did not transfer in season.

It has been, and is still very dry here; bees have done nothing since mid-summer. The *moth* destroyed three swarms for me this fall. They were in gums, and the hum of the robbers prevented any attempt at transferring. I finally made a tent, and undertook the job, but it was too late, and I simply transferred the contents of the gums into the stove.

Well, for a new scholar I've said enough, unless it were better or more to the purpose. In the spring I want to Italianize, and expect to raise my own queens. Do you still advise an imported queen in preference to any native born, say one of yours or Hayhurst's dollar queens? My ideas run in favor of the native.

P. A. MALLOY.

Arno, Mo., Oct. 20, 1884.

Friend M., you say you procured an A B C book, and went at it with enthusiasm. Well, if so, how is it you didn't have a comb of unsealed brood to give your new swarms? Surely you could have got hold of a comb of brood of some sort. If your eleven colonies were all in box hives, and you hadn't transferred a single one at the time these first swarms began to come out, I should have pitched in with considerable vehemence and transferred at least one of them so as to have a comb of brood before I lost seven in succession. I know Doolittle and some others object to this comb of brood; but I have seen too many troubles just like this stopped by it. I would advise you to speedily get all your bees into movable-comb hives. I would advise an imported queen, if you want the best stock that can be had, and calculate to rear queens for your own use. The dollar queens from imported mothers would probably be very nearly as good.

HO FOR CANADA'S GREAT FAIR!

BEES AND HONEY AT THE TORONTO FAIR IN 1884.

MONDAY morning, Sept. 8, 7:30 A. M. finds me at my home, St. Davids, with the gray mare hitched to the old "democrat," on the road, bound for Niagara, 8 miles, there to take the steamer for Toronto. After getting my bees and honey on board, the whistle blew. I took the hint, and we steamed from the wharf 10:30, and after a very pleasant sail of 2½ hours we arrived in Toronto, engaged an express wagon to convey my goods from the wharf to the exhibition. When I arrived I found I was first at the apiary building. After liberating my pets I left for the city, to look for accommodation. Wednesday, the 10th, found the bee-keepers on hand, and every thing in position.

THE BUILDING.

This is about 30 feet wide by 100 feet long; in the center there are two wings, making 40 ft. wide for about 24 feet in the center; there are 5 entrances, 2 at each end, and one on the north side next the railroad entrance.

MR. E. L. GOOLD'S EXHIBIT, BRANTFORD.

Mr. G. B. Jones was manager, who exhibits only supplies, and takes 4 first prizes—wide frame for section, L. frame; best section crate for taking comb honey; best system for getting the largest yield of comb honey, and best glass for retailing extracted honey. Mr. Goold also exhibits the Given comb fdn. This exhibit is located in the west end.

D. A. JONES'S EXHIBIT.

Mr. Jones's exhibit of honey, extracted exclusively, is on the long column in the center of west half. Mr. J. carries off the red ticket for largest and best display of extracted honey, and also takes first on curiosities — honey-plants, labels, extractors (wax and honey), knives, new races of bees, bee-tents, etc. Mr. Jones's honey-extractor gearing is a cross-bar, so constructed as to easily allow its being drawn without the use of screws, which also holds the can very firm.

MR. GREEN'S EXHIBIT, ALDERSHOT, ONT.

Mr. G. exhibits the Root chaff hive, and takes first prize for best winter and summer hive; first on Clark's cold-blast smoker, and also exhibits Simplicity hives, bee-tent, etc.

MR. GOODGER'S EXHIBIT, OF WOODSTOCK, ONT.

This makes a very creditable display, both of comb and extracted honey. Mr. G. takes second prize on display of comb honey, for best assortment of fruit preserved with honey he also takes second, and takes first on cakes make with honey; also first on honey vinegar. The vinegar and cakes were extra. I know, you see, for I got a little closer than just seeing them.

Messrs. Grainger & Dukes, Deer Park, Toronto, exhibit a Sturwold retailing case, and secure second prize. Mrs. H. B. Duke is the lady who takes the first on fruit preserves, and second on cakes. Messrs. G. & D. take 5 first prizes, open only to bee-keepers having not over 25 colonies during the season of 1884. They also receive third prize for best display of comb honey.

EXHIBIT OF GEO. TYE, TORONTO.

Mr. Tye makes a very nice exhibit of honey, both comb and extracted, using glass exclusively for extracted. . This is Mr. Tye's first exhibit; awarded third prize for display of extracted honey.

J. B. HALL'S DISPLAY, WOODSTOCK, ONT.

I would say, as near as I can see, hear, and understand, Mr. H. is the largest comb-honey producer in Canada. He uses no separators. I asked him several questions in regard to them, and in answer I was told he had no *time* to use them. I did not see a *crooked* comb in any of his; and if everybody could get it as nice as he does they would not need any, either. The sections he uses are 1⅝ wide. He carries off the red ticket for best and largest display of comb honey; second on best and largest display of extracted honey; first on largest and best assortment of granulated honey; first on different kinds of liquid extracted honey; first on best twenty sections of comb honey; first on the best 10 lbs. of wax. He also takes a few seconds. He has a comb-bucket; the cover is convex, and turns on a rivet in the center of each end. It is exhibited as a new invention. The cover turns exactly the same as a seat in a railway passenger car.

WILL ELLIS' EXHIBIT, ST. DAVID'S, ONT.

I made only 6 entries, and took 5 prizes—1 first, 3 second, 1 third. The first prize I received on brood fdn. made on the Root mill, and second on thin Vandervort, and second on best exhibit of bees and new races of bees. They were a colony of pure Italians—my favorites; none others need apply. I wish to say here, that I think the prizes should be awarded to the best colony of Italians, Cyprians, or Holy-Lands, and not to new races, as there is no use of any person competing against Mr. D. A. Jones in bees and new races of bees. I think that is why we do not see more bees on the fair-grounds.

CONCLUSION.

Mr. Ramer and Mr. Emigh did not exhibit this year. If they had been on hand, our exhibit would have been as large, or larger, than 1883; but we had a grand display. I have not given the number of pounds each exhibitor had.

Why, I venture, Mr. Root, to say you never saw so much honey eaten at a fair in your life. Messrs. Grainger & Duke, Mr. Goodger and Brother, Mr. Hall, and two assistants, Mr. Tye and assistant, were kept busy from 9 A. M. until night, Friday and Saturday, first week, and for five days the second week, cutting up comb honey in from 4, 5, and 6 pieces, and selling them at 5 cts. each, and were selling extracted at the same time. Mr. D. A. Jones had four men selling extracted at the same time, in packages from 5 cts. and up. The fair closed on Saturday morning, 7 o'clock, Sept. 20.

I received my fdn. from the Western Fair, London, to-day, and find that the Root brood fdn. has taken first, and the thin Vandervort first also.

St. Davids, Ont., Sept. 30, 1884. WILL ELLIS.

SOME OF A BEGINNER'S TROUBLES.

WHY DIDN'T THEY BUILD QUEEN-CELLS QUICKER, AND WHY DIDN'T THEY RECEIVE THE QUEEN?

I AM sorely troubled, and come to you for advice as to what to do. About a month ago, in examining one of my hives of bees, I noticed that there were no young bees nor eggs to be seen on any of the combs, and that the bees were filling the brood-nest with pollen. An examination of other hives showed plenty of larvæ in them. As I am only an A B C scholar, fearing that I might act too hastily, I replaced the comb, and waited several days, when I examined again, but still I found no eggs nor larvæ, but found over a dozen queen-cells on different combs. Being satisfied that there was no queen in the hive, I took up the last number of GLEANINGS, found some queens advertised for sale, and sent for one. She came all right, with half a dozen bees in the cage with her. I immediately put the cage in the hive, between two frames, and left them for the night. The next morning, after perusing A B C, I examined them. I did not like the looks of the *crowd* about the cage very much, but opened the cage, letting the queen and her attendants out among the bees in the center of the hive. Pretty soon those that came with her were "led out by the ear," but they were not quite so harsh with the queen. It was not long, however, until I found her balled up. I rescued her, and caged her again, and again suspended the cage in the center of the hive. After 24 hours I released her again, and again they balled her. After rescuing and caging her I concluded that I would put a dozen of the bees from the hive in the cage with her; thinking that possibly they might impart enough of the *flavor* of the hive to the queen, so they would accept her. After 48 hours I released all again, and watched proceedings. Very soon there was a general commotion in one portion of the hive, and shortly there was about a dozen dead bees to be seen on the bottom-board.

Disheartened and disgusted at finding my queen balled again, I re-caged her and left her suspended between the frames for three days. After consulting A B C again I released her late Saturday evening, and that is the last that I have seen of my queen. Monday, finding that she was lost, I gave them a frame from another hive, containing a few eggs and young larvæ; but in 48 hours they had ten queen-cells on that one comb. Those cells (according to A B C) will be capped in two or three days more. Now, what shall I do? They will raise a queen, but it is so late that there are but few drones flying, hence not much hopes of replenishing the colony with her. They have acted so foolishly already that I am not encouraged to try introducing another queen. Do you think they will live through until spring, or had I better unite them with some other colony? I have a small swarm in a box hive; could I put this one with the queenless one? Will they not go to killing each other if united?

The queenless colony has plenty of honey to winter on. The bees that came with the queen that I bought were very sprightly little fellows, but were at least a third smaller than my common black bees.

Is it natural for bees to decrease in size when caged for a few days? How do you account for this colony of bees not building queen-cells when their queen was first lost, and then building a dozen after all the young bees had been hatched for over a week?

I took out a few frames of honey from one of my hives a few days since, that was of beautiful color, but so bitter that it is not fit to eat. I don't know whether to attribute it to the poison-oak vine, the dog-fennel, the smartweed, or a coarse, branching white-topped weed that grows luxuriantly here. I send you some of the leaves and blooms of this weed by this day's mail, and ask that you tell us what it is. It grows from 2 to 4 feet high on poor land, and from 3 to 7 feet on good land. It has generally been considered a useless pest in pastures; but my bees worked on it profusely for several days, just before the small bud burst open. After flowering, no bees are seen on it. In future I shall anticipate its return in the fall with pleasure.

Sparta, Miss., Sept. 28, 1884. L. HALL.

Friend H., there is a little point unexplained, as you state your trouble. You say you noticed there were no young bees nor eggs to be seen, and that you replaced the comb, but that several days afterward you found over a dozen queen-cells on different combs. How could there be queen-cells, if they had no eggs nor larvæ to rear them from? Have you overlooked the fact that bees can not start queen-cells until they have brood over which to start them? It is true, they do sometimes, in a fit of desperation, as it were, start what seem to be queen-cells, without any larvæ; but, of course, these are only empty cells, and amount to nothing. Is that what you mean? A colony of bees will sometimes refuse to accept almost any queen that can be given them, and that may be the case with your colony; but as you describe their actions, I am inclined to think there was a queen of some sort in the hive—possibly one with disabled wings. When you gave them a frame of brood, however, as you did finally, the fact of their starting queen-cells so promptly would seem to indicate the queen with imperfect wings had got out of the way by some means or other.—A good strong colony can usually be wintered safely without a queen; but one should be given them pretty early in the spring. I should say, by all means unite the weak colony in a box hive to them. Why do you keep a colony in a box hive? Transfer them at once to movable combs, and then you can unite the two without any trouble. If they act quarrelsome, smoke them until they behave.—Bees always get very small after a long shipment—at least, where they go as they ought to do, without getting dysentery or any thing that will distend their bodies.—The plant you mention has not reached us, but perhaps some of our readers may be able to name it from the description you give.

DO BEES EVER SWARM WITHOUT A QUEEN?

SOMETHING ON THE NEGATIVE SIDE OF THE QUESTION.

As there has been so much said about swarms without a queen, I thought I would have a few words to say on the negative side of the question, if they will be acceptable for publication. So far as the arguments go that have already been published, almost any one who had not studied the subject, and many who have, would be impressed with the idea that bees do sometimes *naturally* swarm without a queen. I say "naturally," and mean by this, a swarm that issues by instinct, for the purpose of increasing the number of the species, as God intended them to do at the time of their creation.

Bees might swarm out without a queen if they had none, and also had nothing in the hive to sustain life; or if the hive, or any of its surroundings were in a dirty and filthy condition. Even under the above conditions, if there were a queen in the hive I can not understand why she should remain and "take in" all the smell to herself; for that would be accusing Her Majesty of possessing a very small amount of brain.

I do not believe that bees ever swarm naturally without a queen, in the meaning I have above given to the word; and if there is a queen in the hive at the time the swarm issues, I claim that she will go with them. I had a case like this the past season. On coming home one afternoon my wife informed me that the bees had swarmed in my absence; and as she was looking for the queen in front of the hive (I keep the wings of all my queens clipped), "she came flying down and alighted at the entrance, and went in like a flash." She said the bees did not cluster long enough for her to hive them, but came back and went in the hive again at the old stand. On examination I found an unfertile queen in addition to the old one. I took out the old queen (a three-yearling), and left the young one to have full sweep, thinking at the time, "Now you won't swarm; and if you do, you are little fools, when there is no honey." But they did swarm early next morning, and again in the afternoon, and, I think, three times next day. Each time the queen went out to meet a drone, the bees followed; and while she went right on about her own affairs, the bees flew all about everywhere, sometimes clustering for a short time, and then went back home. With this queen and two combs full of bees I formed a nucleus, and she was fertilized the next day, and returned, just where I wanted her, to the old stand.

Again, two years ago a swarm issued with an unfertile queen, and clustered. My folks at home put them in a hive, and left them in a shady place until I should return in the evening; but during the afternoon they left the hive and returned to the old stand, and on examination next day the queen was missing. I found her and half a dozen or more bees on the ground near the place where they had clustered the day before. She was nearly dead, and could not fly. She had been injured, no doubt, in hiving, and, becoming detached from the main part of the swarm, the bees missing her returned home. If they had been given a comb of brood, and had stayed in the hive they had been placed in, and the queen had got back home without injury, it would have been excellent evidence of "a swarm without a queen." J. S. HOFFMAN.

Williamsport, Pa., Nov. 17, 1884.

HINTS ON TRANSFERRING.

SOME SUGGESTIONS FROM FRIEND DEADMAN.

I WILL not promise to give a full outline for transferring, but only a few suggestions on the same. By following the directions I am about to describe, you will be able to transfer any time, before the honey season closes. I do not say that you would not be successful after this, but it is certainly not good policy to do so, for, in all probability, you would have the chagrin of seeing robber-bees transfer the honey again. I know robbers are frequently very troublesome in the apiary, and between any cessation in the honey-flow; but they never seem so determined as they do in the fall of the year, when there are no fall flowers. Besides, there is more dropping honey, and the combs are not so tough, which should be sufficient of itself to deter one from transferring after the honey season closes.

Before you begin, be quite sure that the day will be sufficiently warm for the bees to fly. Being satisfied of this, and before any bees leave their hives, carry into the cellar, or some dark room, as many colonies as you can manage easily by eleven o'clock. The object in this is to have no flying bees searching for their missing homes. If during the fruit-bloom, and you do not like to miss the honey they would gather, then do only three or so each morning, so that you can have them back on their proper stands at an early hour. Having every thing in readiness I would carry one hive to be transferred, to a stand near a window; now proceed to arrange another stand with pieces of scantling or blocks (no nails necessary), so that when you place one end of your new hive on it, the other end can rest on the hive to be transferred, but only just enough to make an opening through which the bees may pass when driven from the box hive. That is, you are to begin transferring the combs from the opposite end; and as you proceed, the bees, in their endeavor to escape, will keep moving toward this opening; and by placing the combs that you have transferred into your new hive next to this entrance, the bees as they pass up will cluster on them.

There are three advantages in this. 1. The bees have a place to go, and do go exactly where you want them. 2. The brood is kept warm by this plan; and 3, There is less danger of losing the queen. After two or three frames are finished you can then brush any bees that get in your way, right on to these. With this plan, no drumming the bees out, but only sufficient smoke to start them toward your new hive, and to enable you to take out the combs. You will probably have to knock out one end of the hive in order to get a start. If your box hive has a loose cover, all the better; if not, turn it upside down, and proceed as described. If your new hives have tight bottom-boards, then either make one without, or loosen the bottom of *one* already made, and then it is a very easy matter, after the combs and bees are transferred, to put them at once in the hives with bottom-board attached, and use the hive with the loose bottom-board to transfer another, and so on. I would not remove the bottom-board entirely from underneath your new hives, but arrange it so as not to interfere with the opening through which the bees escape.

As regards fastening the combs into the frames, there are many ways suggested. I advise you by no means to neglect the method of using thorns. You will frequently find that these will hold the combs in place themselves, especially when the combs are old and fit snugly in the frames. Make the holes for these before ever you begin transferring, and have them not less than two and a half inches apart. You might not have to use as many thorns as you have made holes, but you have more choice by having a number.

Now, after you have all the combs transferred, and all the bees in that have not flown to the window, take the hive at once to its proper stand, unless at a time when no honey is being gathered, and the bees disposed to rob, when, instead, you are to put them in a dark room or cellar. It is not necessary to have it very dark; for by turning the entrance of the hive toward a wall, the light is prevented from falling directly on the hive. You then leave them there for three or four hours. This is to give them ample time to collect their senses, clean up all dripping honey, and to place themselves in position for defending their home. If you still think there is much danger of robbing, leave them in this room until nearly sunset. You will find, if you have transferred many, there will have been sufficient number of bees from each hive to make a large cluster near or on top of the sash. They must not be allowed to escape until the inmates of every hive you have transferred are back on their stands. You need not fear about their quarreling; they illustrate well the old adage, that "misery loves company." When you are done transferring, and all the hives properly returned, you can then open your window, and each bee will go to its respective home. I would not be afraid to transfer at any season by following the above plan. I have even had colonies that would not defend themselves; but by transferring, and crowding up on only so many frames as they could cover, would be all right, and this has been done a few days after being removed from their winter quarters in the cellar. G. A. DEADMAN.

Brussels, Ont., Nov., 1884.

HOW TO BUILD A CISTERN.

SOME FURTHER HINTS IN THE MATTER, FROM OUR FRIEND PORTER.

IN reply to Mr. Barbour's inquiry about cisterns, p. 621, GLEANINGS, I will give some of my experience. A good cistern can be made, cementing directly on any firm soil, and it will be durable if the conditions essential exist. First, there must be no trees near, for the roots reaching for moisture will surely get between the earth and the cement coat, and grow and crowd till a fracture is made.

The other condition is, that it be perfectly protected from frost. The reasons are obvious. I know a cistern built for supplying stock, holding 120 bbls. of water, which has stood the test for 12 years, and is admirable in every way. It is arched with brick, with a rise of about 18 inches in 9 feet of diameter; one course of brick set edgewise, with a strong iron ring in the center, for a man-hole and support.

Cementing on the earth, the arch should spring at least two feet below the surface, and be well backed by masonry of stone or brick. My own, holding 120 bbls., is entirely below ground, and walled up with stone, arched with brick, and cemented thoroughly inside. Brick is the best material, when walls are required. I have built several, cementing directly on firm soil of any kind, and all do well where rootlets and frost do not interfere. J. W. PORTER.

Charlottesville, Va., Sept., 1884.

FRIEND YOUNG'S CLIMATIC BEE-HIVE.

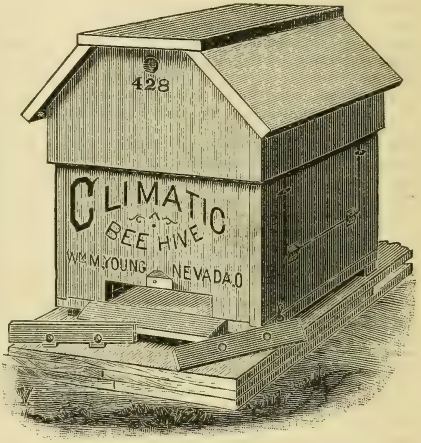
SUBMITTED FOR OUR COMMENTS AND CRITICISMS.

MR. ROOT:—I comply with your kind offer to insert cut and description of my hive in GLEANINGS, free of charge, if I would send a description of hive. My *wants* will be governed by your decision. Your kind offer makes it presumptuous in me to say what I want; I should like if you would comment upon the hive. I should like any discrepancies pointed out. W. M. YOUNG.

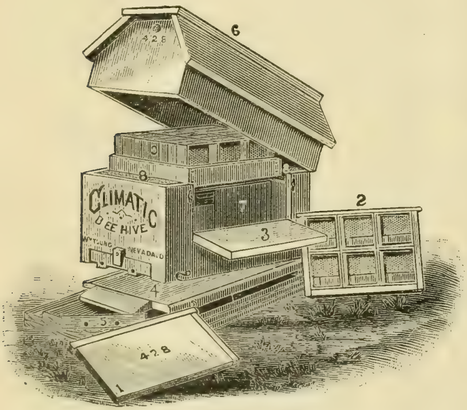
Nevada, Wyandot Co., O., Nov. 19, 1884.

Our description is copied from friend Young's circular.

The illustration below shows the inside of the "Climatic Bee-hive." No. 1 is one of two division-boards which we slip or hang in on each side of brood-chamber for wintering after lifting out broad frame No. 2, holding 6 honey-sections; there are two of No. 2, one on each side, also two doors, No. 3. No. 4 shows the bottom-board with hive raised. The hinged bottom-board I consider superior to any thing of the kind, to keep dead bees, and all rubbish accumulating in the hive, brushed out of the way, unless it is a loose bottom. No. 5 is the slide used in regulating size of entrance. No. 6 shows cover raised. No. 7 gives a view of the brood-chamber, holding ten brood-frames. The frames are *nearly* 10x15, inside measure, giving a large brood-chamber. No. 8 shows the four-inch wall at each end packed with chaff between the two ⅞ boards. The two division-boards give us a wall over three inches thick, with dead-air space at each side in winter; and with your chaff box or cushion on top, your bees are *snug*. The chaff over them admits of a slow draft to carry off the surplus moisture; and with the entrance kept open all winter they have an abundance of air, and are kept DRY—the *prime* object in view. No. 9 shows the honey-case holding 24 1½-lb. sections, glassed on two sides, and wedged up tightly. The hive holds 36 sections; each section is furnished with a starter; also each of the ten brood-frames, thereby insuring straight combs. Each hive has complete directions for handling, pasted inside of cover. The hive is *easily* handled, and bees can be changed from their summer to winter arrangements in a few minutes, and it makes you smile to see how snug your bees are. Metal rabbets in each hive, also separators on each broad frame (No. 2).



CUT OF HIVE, CLOSED.



CUT OF HIVE, OPEN.

The second illustration represents the hive closed, and supposed to be ready to receive a swarm. The entrance-block and slide are out.

I furnish a *single*-walled hive, made exactly like the double wall *inside*, except *one* door and *one* broad frame with 6 sections on *one* side instead of two—as the double wall—same 10 brood-frames. The material difference is the double wall or wintering arrangement; the single wall holds 21 sections on top of brood-frames, 27 sections in all, and one division-board to regulate the size of swarm.

As I am just introducing the hives to parties at a distance (after a satisfactory test among my neighbors), I feel a hesitancy in placing this circular before you, yet a good degree of confidence that you will be agreeably surprised with a trial of the hives.

Friend Y., the first objection I should make to your hive is the size of the frame. I can not but think it a great misfortune to start out with something different from the frame or frames in common use. I presume you do not intend to use your hive two-story, for frames two stories high as deep as yours would loom up pretty well. My second objection would be the loose pieces you have about the hive, and the machinery, if I may use the term. While it is a chaff hive, I should also be inclined to think so many joints would permit frost to get in, in a way that it would not, if the brood-nest were surrounded by a continuous body of loose chaff. Very likely many will be pleased with the arrangement, and it presents as a whole a very pretty appearance.

MOVING BEES.

Something About how Far a Bee can Fly.

A FOOT-POWER BUZZ-SAW MADE FROM AN OLD SEWING-MACHINE.

I MOVED to Peoria last fall; over a hundred miles on the railroad, with my household goods, six colonies of bees, horse, and myself, all in one car. I prepared the bees for shipment by fastening the upper story of the hives to the lower ones, stopped up the entrance of the hives, removed the covers, and tacked over the top of the hives a wire screen to give the bees air, and they came through all right. The last 45 miles of the distance, a bee that escaped through a small hole, punched by accident in one of the screen covers, followed the train. Every time the cars stopped it would come to the door where it escaped; and at one time it came in, went to the hive, and flew out again. This fact illustrates at least the wonderful sagacity of the bee to mark the locality of its hive, its determination to stay with it, and the rapidity of its flight.

HOW I OBTAINED A CHEAP BUZZ-SAW.

As ministers usually don't have too much money, and need recreation, and having a little mechanical genius, I thought I would just make one. A friend gave me an old Wheeler & Wilson sewing-machine; another friend gave me two circular saws that were worn too small for his use. I then got a machinist to make me a mandrel for $4.00. I put an additional balance-wheel to the sewing-machine, made my own journals, and put my saw in the place of the head of the sewing-machine, fastened the two parts of the lid, or cover, together by cleats on the inside, removed the hinges to the back part of the cover and table; let the cover come down on to the saw in motion, and cut its way through it, thus making the cover the platform of the sawmill, adjustable on its hinges, so as to cut any desirable depth. I then extended one side of the platform six inches, and made a carriage to run in a groove exactly parallel with the saw, to carry whatever I desire to cut. This carriage has a rule on the head-block, three feet long, to measure the length of the stick being cut. I also made another carriage to set on the first one, to cut a miter. Thus I have a cheap and quite complete sawmill that does admirable work.
J. J. W. PLACE.

Peoria, Ill., Sept. 24, 1884.

So, friend P., you have proved conclusively that a bee can fly as fast as an average railroad train goes. We have got so much anyhow; and furthermore, a bee can keep it up for 45 miles. It is really astonishing that that one bee stuck to his hive all this distance. Your arrangement for a buzz-saw is quite ingenious, but I should conjecture that your lumber must all be pretty clear from knots, and nicely seasoned, or you would find it difficult to cut it with so small a power.

NITRIC ACID A REMEDY FOR STINGS AND OTHER POISONS.

ALSO SOMETHING ABOUT BEE-STINGS IN GENERAL.

FRIEND NOVICE:—If you think the following will be of any use to your readers, you can hand it out in GLEANINGS. Some may be benefited by the use of it. It is taken from the *Southern Medical Record:*

Hickory Grove, Ga. G. W. WHITE.

I must give an adventure which I had with a hive of bees, and the result, which, by a grand mistake, in using nitric acid instead of sweet oil, I made the discovery that the acid is a veritable specific for the sting of bees. Being cleanly shaved, and unprotected, I undertook to transfer a hive of bees which, becoming enraged, covered my face and hands by the thousand. After fighting my best for a short time, I with difficulty made my way into the house and called for sweet oil. Being in great pain, and even alarmed at the possible result, without time, and in no condition for reflection as to the best means to be used for relief, I held my hand in a cupped position and directed it to be filled with sweet oil; but in the haste and confusion they snatched up a bottle of nitric acid, and poured my hand full, which I first applied to my forehead and then over my entire face and hands, when my granddaughter exclaimed, "O grandpa! stop! stop! it is the wrong bottle! it is nitric acid!" Alarmed with a new danger, I bethought me of soda, to neutralize the acid, and called for it; but before it arrived I was most agreeably amazed and delighted to find the pain of the stings suddenly relieved, as if by magic, and to find that no cauterizing effect or injury had been sustained; but the poison was gone, and even the swelling rapidly subsided.

A few weeks after the above singular discovery, Mr. D. came to me with hands inflamed and much swollen from the effects of poison-oak. I at once thought of the sting remedy, and applied nitric acid —at first cautiously on the back of one hand, and, seeing no pain or cauterizing effect, I applied it to the other, and to the entire part inflamed, with speedy and absolute relief to the poisonous symptoms.
A. L. BARRY, M. D.

Friend White, although the above looks very plausible, I hope you will excuse me for again saying I can not think the nitric acid had any thing to do with the relief experienced whatever. The acid must have been very much diluted, probably by absorbing water from the atmosphere, or it would have made more trouble on our friend's face than the stings. If you want to know what kind of trouble, next time you get a sting ask a druggist to put a drop of pure nitric acid on the spot. It may possibly neutralize the poison of the sting, but I think it will make a worse spot to be healed than the sting alone would have done. The point seems to be this: The remedy is applied, the relief comes. Well, stings, as a general thing, cease paining one after a little time, and as a rule the pain disappears quite suddenly. If our friend had put nothing on his face at all, I think he would have found the pain and swelling to abate just about as they did. I am not acquainted with the symptoms of poison from the poison-oak, but I presume the difficulty often disappears of itself after a little irritation or swelling. You may think I am a little severe on remedies for bee-stings; but, please bear in mind that of the thousands that have been offered, not one stands to-day as a specific. Many things are used for a little while by some earnest defender of their virtues; but as time passes they pass away and are forgotten. When you get stung, extract the sting, give it no more attention, and go about your business.

Heads of Grain

FROM DIFFERENT FIELDS.

AN A B C SCHOLAR IN SANTO DOMINGO, W. I.

Friend Root:—Though I haven't the honor of knowing you personally, I have, nevertheless, become acquainted with you through the good services of our friend Mr. Sobotker, of La Fé apiary, in this city. I congratulate myself for it, as I am to become a bee-keeper through his influence, so I beg of you to consider me as a friend, and an enthusiast for bee-keeping.

As soon as they are put up, I shall have ten Simplicity hives to start with, just to see if I can manage them; if so, I shall get more hives, as I have a farm (stock) and own 1200 acres of woods in the surroundings of this city.

In an article written by Mr. Sobotker in Gleanings for May 1 (to which I have subscribed), I read he had been troubled with visitors. Allow me to tell you that I have been one of the most troublesome, asking him always a lot of questions, and getting information from him, to which he corresponds most obligingly, and I am very thankful for it, as he is, in fact, my bee-keeping master. He got me a copy of your A B C, and I think that, with the book and his information, I shall get along quite nicely.

I send you with this my picture (excuse the liberty), as a proof of admiration toward you, and so that, if I some day or other give you a call, you should recognize me at once. In time I shall let you know either of my success or my failure.

Alfred F. Pellerano.

Santo Domingo, W. I., May 26, 1884.

Many thanks to you, friend Alfred, for your kind letter, and especially for your photograph. It is quite a treat to us to get even a look at our friends away across the water. I am glad to have you give so good a report of our friend Sobotker. With 1200 acres of woods, you ought to have an abundance of honey in your mild climate. We shall be greatly pleased to get reports in regard to the honey business of your island.

HOME-MADE BUZZ-SAWS; SOME EXPERIENCE.

The friend who writes the following says I can put this in Heads of Grain or Reports Encouraging, as I think best. Hear him:

After seeing a number of saws, and hearing the buzzing, I naturally soon had the fever, and a saw and mandrel too, so I made a frame and nailed two spinning-wheels together for the first wheel, and attached a crank to the end of the shaft. A belt runs from this on a small pulley on a second shaft, with a fly-wheel attached, with a belt running on to the mandrel. I had it only a short time when I knocked it to pieces, and made another from an old jack of a horse-power. I fastened a foot-power crank to the end where the shaft from the horse-power is fastened, and ran a belt from fly-wheel to mandrel, and now I am going to make one after the description of W. Z. Hutchinson's, Nov. Gleanings, 1882; and if my third runs as much better as the second runs better than the first, I shall not make a fourth one. Briefly, I learned this: The less gearing, the better; have the belt as thin as possible; keep the saws sharp, and well set.

Dr. Gunn advises us to take a ride mornings to bring the muscles into action, and aid digestion. The doctor was evidently not acquainted with buzz-saws, or he would not need to torment a horse to help him digest his meals, for he would find ample exercise on the treadle of a foot-power saw, sawing one-inch pine. **C. Weckesser.**

Marshallville, O., Nov., 1884.

You make a good point, friend W. I have made sections on a foot-power saw, and sawed them from two-inch plank too; but my impressions, I believe, were about like your own. Home-made buzz-saws do first rate for a bee-keeper who has plenty of time and muscle, and wants to economize; but when his number of colonies begins to get up into the fifties, my opinion is that he will begin to look over the catalogues of low-priced engines.

A QUEEN WHOSE EGGS WON'T HATCH.

I send you two queens. One was hatched last June, and was found, just before sending you, to be a layer of drone-eggs only. From the size of the colony, I don't believe she ever added a "worker" to it. The other queen began laying about two weeks before she was sent you, but her eggs *never hatched*. **S. W. Morrison, M. D.**

Oxford, Pa., Sept. 15, 1884.

The two queens mentioned above were forwarded to Prof. Cook, who replies as follows:

The two queens sent me are not exceptional cases. The one has never been fecundated—is simply an unmated queen. A close inspection with the microscope shows the spermatheca void of the sperm.

The other queen is fecund, and apparently perfect in every way, but her eggs are at fault. Such impotency is noted in higher animals. All we know is, that the ovaries are in some way defective. The eggs grow in them, but are worthless, and never develop. Breeders of horses and cattle are often vexed with examples of the same kind. I have examined many such queens. **A. J. Cook.**

ALSIKE CLOVER AND SHEEP SORREL.

Friend Root, is a man who counterfeits seeds any better than the man who counterfeits money? I sent to you some time since for a peck of alsike-clover seed. You were short, and sent one pound. Lucky for me that it was no more. If I had known it was so adulterated, it would have gone into the fire instead of the ground, for it was one-half sheep sorrel. I think you were innocent, but the man who gathered the seeds knew better, and is the counterfeiter. I shall have to eradicate the clover to get rid of the sorrel, for I want none of it in my land. **S. P. Sowers.**

Dunlap, Kansas, June 30, 1884.

I agree with you, friend S., that it is as bad to counterfeit seeds as to counterfeit money. Come to think of it, I believe it is a great deal worse. We do not plant money to get another crop like that which you planted, but we do plant seeds. But I hope you won't take it amiss if I suggest you were mistaken about the sample. Alsike clover produces seeds of different size and different colors; and when sorrel comes up on ground where it was planted, it is natural to infer the sorrel seed was with the clover. This is the first complaint of the kind we have had for a year or two; and I think if you have any of the seed left, I can prove to you that it is all alsike, or you can do it yourself by sowing it carefully in some ground in the house. Bake the ground first in the oven, to be sure that all seeds of weeds are killed, and sow your alsike on it, and see if any sorrel shows itself.

SWARMING IN NOVEMBER.

Just at sunset yesterday evening I had a swarm of bees come out, and they settled exactly as they do in swarming in the proper season. Did you ever know bees to swarm so late? I put them in a small colony, smoked them well, and chopped up an onion, and put it with them; this morning they had brought the onion out, and seemed to be well satisfied. They came out of a strong colony that was well supplied with honey. Now, what do you think could have caused them to swarm? The bees here have gathered but very little honey since last spring. There are a great many bees in this section of country. I am just beginning, and have 17 colonies.

Hutto, Tex., Nov. 3, 1884. J. T. MEGER.

Friend M., either your bees have been getting stores without your knowing it, or else the colony sending out this swarm has superseded their queen, and in raising a new one they got two instead of one. This will often cause a swarm to come out at an unseasonable time. It is not only singular that the swarm should come out in November, but it is more singular that they should come out at sunset, and this would lead me to think it was on account of the loss of the old queen, as I have mentioned above.

WANTED, A QUART STRAWBERRY-BOX THAT HOLDS A QUART.

I want to get some one-quart boxes in the flat for strawberries. Do you make them, or are you going to make them, and what are they worth per 100? What boxes I have do not hold a quart, and I never saw any that did. I believe all, or nearly all, who buy a box of strawberries, growl because the box they have bought does not hold a quart. If it had been sold to them for five cents less a box because it did not hold a quart, yet they would not have been satisfied. They want a quart, and I want them to have a quart. I do not want any boxes before spring, and then I am going to order some frames, and then they all could come together. Where one does not have too many bees to attend to, strawberry culture with bees is profitable. My strawberries pay me a great deal better than my bees. R. N. LEACH.

Humphrey, Neb., Nov. 4, 1884.

Friend L., we do not make strawberry-boxes, and we can not make them at the prices they are furnished, without special machinery. Several of our readers, doubtless, can furnish you with what you want; among them we may mention the Berlin Heights Fruit-Box Co., Berlin Heights, Erie Co., O. In regard to none of the boxes holding a quart, is it not true that they will hold a full quart when heaped up, and that, as they very soon commence to settle, the term quart is very indefinite, because of the constant shrinkage? Strawberries seem to be one of the commodities that are difficult to measure exactly. I think with you, however, that the box should be made so that each one contains a full quart when they are first packed for shipment—that is, so that a quart can be put in while the basket is crated, ready to send out. If it is a fact, that none of the boxes marked a quart hold that much, in the way you have stated it, we truly need a reform. One instinctively feels as if he were being imposed upon when he finds that what he purchases does not hold out. It is not altogether a disposition to cheat, however, that brings about this irregularity; for tin pails, as they usually come from the factory, overrun, sometimes almost half, while tin pans always run under. We have had to have our pails made specially to order, to get them to hold exactly what they are called. When competition becomes close on certain commodities, the temptation becomes very strong for the dealer to say, "I can let you have the goods at the price you insist on, by giving you scant measure," and then some one suggests that probably no one will notice it any way, and thus the evil creeps in. But it seems to me that every honest man wishes to have his goods hold out so well that he can tell any one to weigh or measure, without any fear of consequences. I have just measured some baskets we bought berries in, and they hold a *full* quart, *level full.*

THIEVES IN THE APIARY.

On page 734, Nov. 1, friend Hutchinson says that his apiary was visited by thieves, but they did not seem to be very lucky, so they thought they would move down and see me, I guess; any way, they have been here, and taken away with them a good lot of honey. On the night of Nov. 3d, while we were gone to a political meeting, three of my best swarms were robbed. They were packed for winter, with from 7 to 8 frames; they had taken the caps off, and taken four frames from each hive. I do not know whether the queens were taken or not. I should want my gun to my shoulder, and finger on the trigger, instead of a string, friend Hutchinson. Can't we have some good plan for a honey-house in GLEANINGS this winter? A. SMITH.

South Lyon, Mich., Nov. 6, 1884.

P. S.—To-day I find one more swarm with five frames taken. A. S.

Friend S., see what I said about guns in the last issue. Would you feel happy after having killed a man for stealing your honey? I am sure the great difficulty in the question is a wrong state of affairs in your vicinity. Some kind Christian wants to look up these people, and find out how it comes that they can enjoy eating honey that has been stolen from their honest, hard-working neighbors. It is surely ignorance, and a want of education and cultivation. It is done by boys—boys who want to be got into the schools, and taught average common sense and average Christianity. May be they are foreigners; perhaps they do not speak our language; but in any case they should be reached—not with guns, but by Christianizing influence. In the abstract, there is no disagreement in this matter; everybody agrees with what I have just said. But when it comes to losing our own honey, we get impatient; these remedies seem too slow, and human nature prompts us to want to take the law in our own hands. Keep level, dear brother, and remember that our happiness does not consist altogether in immunity from thieves.

MY REPORT FOR 1884.

I commenced the season with 39 colonies, having lost 4 in wintering; wintered on summer stands. We had a hard frost on the 29th and 30th of May, just as fruit-blossoms were at about their best. June 2, bees began killing off drones; no honey coming in, had to feed. White clover and red raspberries commenced to blossom about June 9; and by about the 14th bees became self-sustaining, and the 22d I began putting on sections. June 30, first swarm issued. Only eight issued in all, the last one Aug. 6.

About July 30, bees began working on buckwheat, and I never had a better crop of buckwheat honey.

Aug. 25th had a frost, which closed the season for surplus, but bees found enough after this to just about keep them out of mischief. Hard-maple blossoms were a total failure; so also were basswood; not a solitary blossom of either could I find; but of white clover I never saw such an abundance.

Results of the season are 1650 lbs. comb honey in sections, and 182 lbs. extracted; in all, 1832 lbs. I sold one swarm, and go into winter quarters with 44 colonies.

With basswood a failure, and no increase to speak of, I still think my bees have done well for me, and I am satisfied with the result, and thankful.

Otsdawa, N. Y., Nov. 17, 1884. Thos. Decker.

A GOOD REPORT FROM AN A B C SCHOLAR.

Seeing other reports of our friends in Gleanings, I thought I would send in mine. From 9 colonies, spring count, I have taken 500 lbs. of comb honey; sold 420 lbs. at 15 cts. per lb., $63.00. The profits of my bees for the season are $75.00, exclusive of the increase. Don't you think this a very good report for an A B C scholar? I attribute my success to the A B C and Gleanings.

HONEY-THIEVES.

Honey-thieves are abroad in our county. I visited a bee-friend of mine a few days ago, and found his apiary of 15 colonies wild with robbing, caused by thieves breaking open one of his best hives, and scattering honey all over his apiary. He offered $25.00 for their apprehension, but so far has gained no clew. Among others who have been visited by these sneak thieves are Rev. Mr. Travis, Rev. Mr. Davis, and an estimable widow lady. So far I have escaped their depredations, but I am in continual fear of a visit from them.

HONEY FROM THE COW-PEA.

I secured about 100 lbs. of honey from the cow-pea; it was of a beautiful color, but I did not like the taste. My wife thought it equal to clover honey. E. W. Stayton, 9—18.

Martin, Tenn., Nov. 18, 1884.

Friend S., can it be possible that anybody would visit an apiary for the purpose of stealing honey, if he understood the injury he might do the bee-keeper, and also the additional trouble caused on account of robbing, where our hives are broken open and scattered about in this manner? If it really is true, that we have people who would steal honey, knowing this fully, I shall have to confess that humanity is worse than I had supposed it to be. I do not believe there are any such people, and it seems to me, therefore, as I have said before, that the great remedy consists in education, and along with it a full understanding of the thought embodied in the text, "The fear of the Lord is the beginning of wisdom." One may decide to ignore the fear of men, or the fear of consequences from the law; but, who shall set aside the fear of the Lord?—I am glad to hear additional facts to the effect that the cow-pea does yield honey.

FROM 4 TO 11, AND 347 LBS. OF HONEY.

As I have been reading the reports in Gleanings, and am an A B C scholar in bee culture, I thought I would give you my report. I commenced in the bee business in the spring of 1883 by buying one stand of Italians, paying $10.00 for them. I got 2 swarms from it in August. I bought one box hive of black bees, queenless and full of worms; paid $1.00 for them; transferred them; paid $1.00 for an Italian queen, and gave her to them. I received from all, 84 lbs. of honey. I packed in chaff hives on summer stands. Now for my report of 1884: Spring found all living—3 strong, one weak, my hives full and strong. They commenced swarming June 15; I got 7 swarms—two apiece from the three strongest hives, and one from the weakest one. I received from all, 347 lbs. of honey, or 86¾ lbs., spring count. All comb honey. I might have done better if I had had the A B C book for a guide. I go into winter with 13 stands. I have made all my own hives and sections by hand. W. D. Burnett.

New Vernon, Pa., Oct. 17, 1884.

FROM 6 TO 13, AND 400 LBS. OF HONEY.

I bought two swarms of bees one year ago last fall, and packed them away. They came through the winter all right. Last summer was poor. I increased to 6; not much surplus; packed them on their summer stands by putting boards around them, leaving the entrance open, the hives about a foot apart; packed the space between them and the sides with shavings from the planer. I started with 6 last spring, the most of them weak, one without a queen. I have now 13, with about 400 lbs. surplus. I received a queen one year ago last August. This year I raised a few queens from her. I like them, they are so nice to handle. A black bee has no business around them. A rather poor summer for bees again this year. My bees are one hive Italians, four hybrids, the rest blacks. One queen I raised from the Italian has bees that are all black; how is that?

BEES AND RED CLOVER.

My bees all (Italians, hybrids, and blacks) worked this year equally on red clover, but they don't generally do it. I. B. Whiton.

Ithaca, Gratiot Co., Mich., Nov. 1, 1884.

A REPORT ENCOURAGING THAT IS NOT ALL BEES AND HONEY.

J. P. Israel, p. 738, gets the same amount of honey from 18 colonies that I got from 22. My honey is all extracted, however. I did no feeding. I lost three colonies, or, what is the same thing, I put them in box hives. I increased to 45 colonies; got 680 new brood-combs built on half-sheets of foundation.

The above is my honey report very much condensed. I have something more to report as the result of my season's work, and that is 1400 bushels of corn, besides some truck, and all for my own labor, except harvesting the corn. C. A. Wheeler.

Selma, Bexar Co., Texas, Nov. 8, 1884.

FROM 11 TO 50, AND 2900 LBS. OF HONEY.

I send you my report for 1884. Commencing last April with 11 colonies, I increased by natural and artificial swarming to 50. Three large swarms left for parts unknown. I extracted 2800 lbs.—100 lbs. of comb honey, making in all 2900 lbs., an average of 263 lbs. per colony, spring count. Owing to busy time with farm work, I did not get to finish extracting till Oct. 14. Weather being cool, and honey thick, I did not get nearly all the honey out. I have no doubt there was from 150 to 200 lbs. left in the combs. My best colony gave 206 lbs.; next best, 180 lbs. This does not include the increase. I am no *specialist*, but am keeping bees in connection with farming. The bees have made me more money than the farm has this year.

FRANK BENTON STILL TRIUMPHANT, EVEN IN SHIPPING BEES ACROSS THE OCEAN IN OCTOBER.

I, too, have received an imported queen from Frank Benton; she was mailed Oct. 2, and reached Round Rock Oct. 18, just 16 days on the way. The queen and bees were in splendid condition, only one dead bee; the cage was as neat and clean as a new pin. The imported Italian queen I got of you is doing well. I had a good deal of trouble introducing her, but succeeded at last. I think she is very prolific, from the way she went to work.

A. J. KIMMONS.

Round Rock, Texas, Nov. 18, 1884.

WHEN SHALL THE BEE-KEEPERS MEET IN NEW ORLEANS?

Having heretofore noticed in GLEANINGS suggestions about a general rendezvous of bee-keepers at the coming World's Fair in New Orleans, I have perused the November numbers in the hope that either yourself or Prof. Cook or Mr. Jones or the President of the National Bee-keepers' Convention, or some one else of adequate notoriety, would suggest some definite time when the bee-keepers of America might convene at New Orleans. The horticulturists are to have their meeting Jan. 14, 1885, and I wish the bee-keepers might meet the same month, as near the 20th as possible. I have consulted with Mr. Hayhurst and several other prominent bee-keepers, and all seem to agree that about the 20th of Jan. would be a good time. Can't you aid the matter, and at least urge an informal meeting of bee-keepers at New Orleans?

Bees have not done well in this locality this season. Linden was a failure, and white clover did not yield with liberality. I commenced the season with 91 stands; increased to 107; took 3000 lbs. extracted and 400 of comb honey. I go into winter quarters with every colony strong, and well supplied with sweetness.

S. W. SALISBURY.

Kansas City, Mo., Nov. 20, 1884.

Friend S., I've been waiting anxiously for something from somebody in regard to the matter. Dr. Besse informed me several days ago that Prof. Cook is not going at all, but I for one most earnestly protest. The date you mention will suit me as well as any other.

FRIEND DEARBORN'S UPS AND DOWNS; BUT THE UPS FINALLY HAVE IT.

I have commenced four times to keep bees, and have failed every time until the fourth trial, and now I think I am well paid for my time. I put 12 swarms into a good cellar last winter, and they all came out all right except one that smothered by dead bees dropping down and stopping the entrance, which was very small. They died about a month after I put them in the cellar. After they died I raised the back end of all the other hives about half an inch, and left a ⅝-inch hole open on top for ventilation. I bought a swarm of Italians this spring, so it made my number good again. I increased to 25 this summer. I worked 18 stands for comb honey, which gave me 870 lbs., mostly in 1-lb. sections. I have sold almost all of it at 15 and 18 cts. per lb.

I sent for 500 sections just as the basswood bloom commenced, and it was two weeks before I got them, so I think I must have lost 200 lbs. by not getting them in time. My two last stands filled 96 sections apiece, which weighed 162 and 112 lbs. Now, Mr. Root, you may count me a steady customer for GLEANINGS year after year, so long as I can raise a dollar to pay for it, for I think it is the most interesting book for the price I ever saw.

C. A. DEARBORN.

Baraboo, Sauk Co., Wis., Sept. 6, 1884.

HOW TO MARK A QUEEN-BEE, AS DESCRIBED BY HUBER.

Your esteemed correspondent, S. J. Baldwin, in describing, on p. 764, how to mark a queen-bee for introduction into a hive or other purpose, by painting her back, was probably unaware that this plan was followed by the immortal Huber, about the year 1790. In his own words, see p. 97, "New Observations on the Natural History of Bees, by Francis Huber," published by Longmans, London, 1820, "In the next place we introduced a very fertile queen into the same hive, after painting the thorax, to distinguish her from the reigning queen." I could refer to other paragraphs, but deem this one sufficient.

ARTHUR TODD.

Philadelphia, Pa., Nov. 20, 1884.

TRANSFERRING IN JULY AND AUGUST.

I successfully transferred 21 stands of black bees, commencing July 28 and finishing Aug. 3. I numbered my hives from 1 to 21. In just 18 days, hive No. 13 threw off a large swarm, and I put them in hive 22. August 27 I commenced taking out two brood-frames from each side of hive, and put in a section-frame at each side. In taking out frames for sections I got 165 lbs. of comb honey. I have 5 acres of buckwheat in bloom, and hundreds of acres of heart's-ease within two miles. The honey I got must have been nearly all from heart's-ease, as the buckwheat was not in bloom then. I sold 158 lbs. for $23.45 in that shape.

Did I do wrong in taking out those brood-frames and putting in sections, considering the time of year? If so, what shall I do to remedy it? My idea was to get honey from my buckwheat, etc., and then put in chaff division-boards, leaving six full frames in the center for winter. Last winter was a very severe one here, and I had usually lost four or five swarms each winter on the summer stands; but a friend told me to put them in rows close together on the ground, and cover them with straw; he said I could not put straw enough over them to smother them, so I put a small strawstack over them, not giving them any chance to get out, nor myself any chance to get to them. Some of my friends predicted that I would lose all of them; but in the latter part of March I saw, one warm day, some bees flying around, and on examination I found them by hundreds coming out through the straw. April 5 I took the straw off and found every stand in splendid condition; but our spring was so wet and cold they did nothing up to the time of transferring, when I did not find, on an average, an ounce of honey in their stands. As soon as I discovered this I at once commenced feeding, and fed them $5.00 worth of granulated sugar, and followed instructions to the letter as found in your A B C book, with result as above given. Now, have I done a bad job by taking brood-frames from them at the time of year? W. F. WRIGHT.

Johnson, Neb., Sept. 6, 1884.

Friend W., I can not very well answer your question, without knowing your honey resources; and, in fact, I do not know that anybody can answer it until he sees how you turn out. If plenty of honey comes in the fall, so as to fill up where you took it out, it is all right enough; or if you feed with sugar syrup so as to make up for the honey taken, it will be just as well, or better. I should think covering the hives with a strawstack a little questionable; but as it turned out all right in your case, perhaps the plan is well enough. I should be afraid the bees that come out through the straw would never get back where they came from, and this would weaken your colonies a good deal. For this same reason I do not think it best to move colonies up close together, as you speak of. Unless you put on straw enough so as to shed rain, and fix it so as to shed water, I should be afraid it would only have the effect of keeping the hives cold and damp. But I should by all means have the entrance so they can get out and in when the weather is suitable.

FROM 25 TO 35, AND 2000 LBS. OF COMB HONEY.

My report for the season is as follows: Commenced with 25 swarms; increased to 35, and got about 2000 lbs. comb honey, mostly from white clover. I wish to know if there is any way to prevent the bees from storing pollen in section honey above brood-chamber. Will bees make as much honey in 1-lb. sections as in 2-lb.? This is my second season with bees. JOHN CROMBIE.

Columbus, Wis., Nov. 21, 1884.

Friend C., bees seldom store pollen in the sections, when separators are used, and very likely Heddon's arrangement of two bee-spaces and a honey-board would have the same effect in discouraging them from storing pollen above the brood. Bees usually store the pollen quite close to the brood, so they can have it handy to feed the young larvæ. Putting a strip of tin between the brood-comb and the sections would make the pollen unhandy. The subject has been pretty fully discussed in our back numbers.

BEES, BUG JUICE, AND PROHIBITION IN WASHINGTON COUNTY, PA.

I may make the same report in regard to the season of 1884 that Mr. Vankirk, of Washington, does, as mentioned in Nov. GLEANINGS. We had some of the nicest honey from locust-bloom I ever saw. It is almost as clear as water. After that, came the "bug juice;" but with us it had not the bad flavor and taste as was reported by some. Some of our folks even prefer it to the white clover. I think it is on account of the locust and white-clover honey that is mixed with it. Toward the last of the season, after the bees had ceased to work on white clover, the honey was not so good.

Notwithstanding there is no liquor allowed to be sold in Washington Co., there is plenty of it drank, as shown by the number of "full" persons to be seen. Allegheny Co. has plenty of saloons; and as it joins us on the east, our prohibition does not amount to so much as it should and would do, if it were national instead of sectional.

McDonald, Pa., Nov. 22, 1884. J. H. MCBURNEY.

WINTERING ON CANDY ALONE.

Can a swarm of bees be wintered on candy, prepared according to directions on page 50, A B C book, and hung in the hive in a brood-frame?

SUB-EARTH VENTILATION.

What are the principles of a sub-earth ventilator? How long should the air-flue be? Must the flue be straight, or may there be one or two elbows in it? The reason I ask about the candy is this: A neighbor has a "catch" swarm, and they have not sufficient stores, and he said I might have them if I would take them. To be sure, I will, for the comb. But I should like to winter them if it is possible.

Scipio, N. Y., Nov. 24, 1884. J. B. FORDYCE.

Friend F., I have wintered bees with candy placed over the frames when I could not discover a cell of honey in the hive. They wintered nicely too; but some others who have tried to do the same thing have not succeeded so well. The bees swarmed out in the spring, but the candy feed may have had nothing to do with it. It just now occurs to me, that friend Doolittle's remarks about the sugar in the Good candy being of no value will need a little qualifying when we talk about wintering bees on candy from sugar and nothing else.—The principle of sub-earth ventilation is that, instead of bringing cold air from directly out of doors, it is first carried far enough under ground to take the frost out, or reduce it to the temperature of the earth, down below the frost-line. The length of the pipe depends upon the size of it, and also the depth to which it is laid. I suppose that connecting the ventilating-pipe with ordinary tile underdrains would answer every purpose. If you are going to lay a pipe, the dimensions and length could not be given until we know how many bees are to be kept in your cellar or frost-proof room. At a random estimate, I should say a cellar containing 50 colonies of bees should be ventilated by a pipe not less than four inches in diameter, and this pipe ought to be at least three feet under ground, and not less than 500 feet in length. To get a strong draft through the pipe, the outlet ventilator would be better connected with a stovepipe or chimney in which a fire is kept. This would send a steady draft through the cellar; and the air, as it comes in, should be above freezing, even if it is 20 below zero outside. We need experiments in this matter. Elbows would probably make little difference, although if they turned a sharp corner the current of air would be obstructed. If I were you, I would try wintering those bees on the Good candy, described in our last issue.

HONEY FLYING OVER THE TOP OF THE EXTRACTOR; SOME GOOD NEWS.

At top of second column, page 737, G. M. Doolittle says, "It is supplied by going in at the center." That is enough; stop right there, and "catch hold;" if you cut off the supply of air at the center, the fuss is all over. I bought an extractor from you, and for two years it daubed every thing near it, so that I had to keep a sponge and basin of water always by to clean my clothes with. I at last found, by experimenting with bits of tissue paper, that it was as Mr. D. says, a "circular fan." It has never thrown over since, for I at once put a solid tin top on the comb-basket, with openings through it to drop the combs through; made the top circular, and just as large as will revolve inside the can. I would not think of exchanging it for a cover to the can.

Salem, O., Nov. 8, 1884. M. FRANK TABER.

Friend T., your invention is one of great value indeed. As soon as I read your letter I became ashamed of myself to think I had not thought of it before. I went straight to the tin-shop, and told them to make the top of the comb-basket out of a whole piece of tin, and we have found we can do it about as cheap as the old way. This makes them much stronger, and effectually cuts off that current of air that goes down in the middle, and then comes out around the outside. It also avoids the necessity of having a higher can, or a cover over the extractor. If we have room to set the combs in the comb-basket, what more is needed? We have tested machines made both ways, by running them with a board in each side, in place of the combs, and the invention seems to cover the trouble perfectly. For the present we extend our thanks; and when we decide more fully that this invention is exactly the thing needed, we will try to remember you more substantially. Manufacturers of honey-extractors the world over, it seems to me, ought to adopt your invention.

OUR EXTRACTORS DO NOT ALWAYS ACT NAUGHTY, EVEN WITH THICK HONEY.

The extractor, knife, comb-basket, and box came all right; freight charge, $2.40. I think the extractor a daisy. I extracted 30 combs of thick honey. I turned the crank with all my strength, but failed to break it or throw honey over, but succeeded in getting nearly all out. There was certainly not a *pound* left in each comb, as Brother McNeill says he has. WILL T. ZINK.

Bois d'Arc, Mo., Nov. 6, 1884.

Thank you, friend Z. I felt quite sure that our extractors could not *all* throw honey over the side of the can, for we had tested so many of them, especially in regard to that feature. Those we are making now for 1885 have an improvement added which in no way interferes with their working, that we think will obviate the whole trouble under any circumstances.

FRIEND M. H. HUNT AND THE ADAMS HORSE-POWER; ONE OF MY MISTAKES.

Friend Root: -Please accept many thanks for your flattering notice, and trouble of publishing picture, which my neighbors say is a good one. But you made a mistake in saying I use the horse-power, as I have been running an engine a year - one large enough to run a planer, saws, or grind feed. It is in a new shop, 24 x 34, two stories, with addition for engine. I have informed my customers generally that I use an engine, and I'm afraid they will think I've been telling wrong stories. M. H. HUNT.

Bell Branch, Mich., Nov. 18, 1884.

Well, now, friend H., I am very sorry, but you see it just corroborates what I said, that we had to find out by the neighbors what you are doing, for you didn't often tell it of yourself. May be you did tell it, though, and I had forgotten it.

KEEPING BEES CLOSE TO THE TRAVELED ROADS.

ALSO SOMETHING ABOUT THE HONEY OF CALIFORNIA, AND THE PRICES IT DEMANDS.

OUR little home is between two roads that are pretty well traveled, and now our stocks of bees have got so numerous they give some trouble, especially to a ranchman who has to pass our place to go to town; and as we always want to live in peace with our neighbors, we have sold our bees. It is a loss to us, as our bees have given us something extra every year, and wheat-raising has not; but it can not be helped.

We have not taken off as much honey as some here in California, but our "bee king" prepared to let the bees ripen it themselves, and none was extracted but what was capped. Some swarms did better than others, as is usual in all apiaries. One young swarm was hived the 13th of May. The 23d they took out 35 lbs. extracted honey from top box (we never extract from bottom of hive), and the 30th we took out 55 lbs. more, and the same was kept up all the season; but the dates were lost, so I can not say just how much that swarm did do; but we got 200 lbs. each from quite a lot of hives.

Mr. Myers, of Oregon, sent to us for a lot of our tar-weed honey to feed his 60 swarms, as his bees did not make any honey this year. He wrote: "As you sell it for 3 cts., cans and cases thrown in, and the freight would be only about one cent more, of course it will be better than sugar." Our bees winter on it every year, so we know it is healthful. The first six tons of our honey was made exclusively of sage; the other four was slightly tinged with yellow, from a yellow-blossomed bush that blossoms and yields honey profusely when the sage is nearly done; and when both sage and bush are done, then comes the tar-weed, keeping our bees busy a little till willows come, after the rains. Our good honey is all sold except one ton, and we have got 6, 7, and 8 cts. on account of its bright color, thickness, and excellent flavor, while most honey this year has brought only 5½ at most. MRS. J. HILTON.

Los Alamos, Cal., Oct. 13, 1884.

You say, my friend, it can not be helped. Are you sure you are not giving up too easily? Can you not put your bees in some other part of your farm? or if this is not practicable, build a board fence, say eight feet high, between the apiary and the road. I have known this of itself to stop all trouble, for the bees will go over the top of the fence, and when you once get them up eight feet high they seldom descend to notice any thing lower down. Besides, the passers-by can not see the bees, and the bees can not see the passers-by, and this fact of itself seems to go a good way toward peace and harmony. The tall board fences will probably be worth all they cost in the way of keeping off high winds.—So your honey sold at from 3 to 8 cts. per lb. Well, this illustrates the vast difference there is in the quality of honey. And there is almost as much difference here. We have poor honey that can hardly be given away, and we have fair honey and good honey, and then occasionally what we call splendid honey. The latter is light in color, thick in body, exquisite in aroma and flavor. And this makes it necessary for us to have our honey very carefully graded, if we want the best price for it. There are always customers who are willing to pay fancy prices for fancy honey.

SOMETHING FROM ONE OF OUR BOYS WHO IS AWAY AT SCHOOL.

ENCOURAGING WORDS FROM ONE WHO LOVES NATURE AND NATURE'S GOD.

As the following was evidently not intended for print, I am taking a liberty in publishing it; but I presume my good friend Earl will excuse me when I assure him that it will be perhaps an encouragement for other young men, besides the valuable facts it gives us in several points. I may explain, that the writer used to have charge of our apiary.

My often-remembered Friend and Helper: — I now wish to have a little chat with you, to let you know I am still alive and putting in my time at my much-loved natural-history work. The more I study it, the more its vast scope impresses me, and keeps urging me on to know more of these wonderful forms Dame Nature so bountifully spreads all around us. Even a burdock leaf, if studied thoroughly, becomes a machine outrivaling, in beauty of workmanship and delicacy of the different parts, any instrument of which man can boast.

My college life is one of work—more hours a day by several than is the usual allowance at the factory; but I enjoy it, and that leaves no room for homesickness and "sich truck."

We have quite a thriving natural-history society among the students interested in the work, and at our next meeting your humble servant proposes to torture the audience on the subject of bee-keeping, hence the small order for necessaries for the lecture.

You remember I was quite interested in taxidermy; well, I am now putting in all my spare minutes at taxidermy for the University, so you see my picked-up trade was not a bad investment after all.

We have had very nice weather for bees here for the past few weeks, as they could fly out nearly all day; and only last week, asters were brought in by some of the students in botany. Most of the bees I have seen here were blacks or hybrids, and to-night I saw some section honey in nailed sections, and the *honey* seemed decidedly the color of darkness also.

I think the bee-industry of this section needs developing, for the hives are mostly old box hives, with a place in the top for boxes or drawers.

Prof. Lazenby is a Cornell graduate, and I believe Prof. Cook was here a year ago last winter, working in the laboratory, and getting new ideas generally.

We have a very nice greenhouse in connection with the botanical part of the University, and a few weeks ago there were two large banana-plants there—one with a stem of ripening bananas, and the other just in bloom, and the honey just dripped from those blossoms in great thick drops, which made every thing sticky under the bunch, and made a feast for the bees and wasps every time the door was left open. E. H. SARGENT.

Cornell University, Ithaca, N. Y., Nov., 1884.

In regard to the honey from that banana-plant, can't some of our friends in the tropics tell us why bee-keeping is not a great success where bananas are grown largely? By the way, where do bananas grow, and are there any bees kept there? Friend Earl, we trust you will furnish the people around you with information on the subject of bees and bee culture. Less than a week ago your humble servant talked bees to a much-interested audience for about an hour, and after that they occupied a full half-hour in plying him with questions. It seems to me, the question part was the best part of it all; any way, it seemed to be a very pleasant evening all around.

DEPARTMENT FOR THOSE WHO SAY GOODS WERE NOT THERE.

I ORDERED a honey-knife when I ordered goods in July (I think), and have never received the knife. I think I ordered the "Novice." The price was 70 cts. MRS. W. H. SCOTT, JR.

West Union, Iowa, Oct. 13, 1884.

On receipt of the above card we looked up the order, and found that all we sent Mrs. S. was 1000 sections and 3 lbs. of fdn., and the knife. The order was plainly made out, and the three articles were carefully checked, so it seemed next to impossible that the knife could have been omitted. The clerk replied as follows:

We have looked up your order, and find that the honey-knife is checked off by the clerk who picked up the goods. Have you opened and examined carefully the box of fdn.? If not, please do so, as it may have been put in there to prevent its being lost. You are rather late with your complaint. Did you not note our notice on caution label sent with the goods, that all complaints must be made within 10 days after goods were received? Of course, if you do not find the knife we will do what is right.

Oct. 15, 1884. C. K.

After reading the above reply I felt it was a little rough on our friend; for if she ordered only three articles, it would seem strange that she could overlook one of the three. However, I let the reply pass, and in a few days got the following:

I had examined the fdn. and section box before writing, and the knife was not with them.

Oct. 27, 1884. MRS. W. H. SCOTT, JR.

Of course, we sent another honey-knife on receipt of the above card, but I felt a little sad at the time—not because I was probably 70 cts. out of pocket, particularly, but because it seemed such a very difficult matter indeed to do business without these annoying complaints of shortage. Who is at fault? Well, in a couple of weeks more came the following. And this is the point of the whole moral I wish to make. Read it:

I received your card of Oct. 31, but have not been able to ans. until this time. When my sections were brought home the box was placed on a rack in the bin of the granary, where they remained until they were all used. When the last were taken out the knife dropped down, and remained on the floor with pieces of farm machinery, and was not seen until the bin was emptied for grain.

Please excuse me for the mistake being made.

Nov. 14, 1884. MRS. W. H. SCOTT, JR.

Now, my friends, the moral for us is this: When you get a box of goods, before you commence to open it, keep in mind what troubles have come by accidents. By no means open the goods in a corn-crib or granary, or any such place. Do not open them in the grass, or in the shop where there are shavings. I should say, take your box into a clean room, put it in the middle of the floor. Do not have any children about, nor meddlesome people, until you have carefully checked off each article, and know you are all right. After that, call in the children and neighbors, and show them the things. Then if you want to put them out of the way somewhere, put them in the corn-crib or granary, or down among the shavings, if you choose; for if any thing should be lost after you have once seen it, it clears me and our poor clerks. Why, just think of it! if that knife had never been found, it might have spoiled the money value of some innocent clerk by ten cents a day; for every blunder that comes up is traced back, and the matter is never dropped until I find just who was at fault—that is, if I can find out. When a clerk has made three or four blunders by leaving out goods, I begin to decide that he is not worth the wages he receives. Now, before another season shall we not all resolve to be very careful? Why, we have sometimes had a lengthy correspondence, and a good deal of ill feeling, just because something was dropped and got out of sight, something after the fashion of the above honey-knife. I do not mean to be fault-finding in what I say, dear friends, but I want to impress upon you how many ways there are in which you may be mistaken, when you are inclined to be very positive.

REPORTS DISCOURAGING.

THE OTHER SIDE OF BEE CULTURE.

I WENT into winter quarters last fall with 123 colonies; wintered all. I sold this spring 26 colonies; lost by robbers, 5 colonies; commenced the season with 92; increased to 103. I ran 76 for comb honey. I got 250 lbs. of section honey—a fraction over 3½ lbs. per colony. But I do not wish to exaggerate, so I will have to acknowledge that I had about 200 lbs. of that honey in the sections from last year, when I put them on. I sold this honey at 15 cts. per lb. I extracted 1200 lbs.

450 lbs. of pure "bug juice"	at 5 cts.	....	$22.50
400 " " hybrid " "	" 7 "	....	28.00
400 " " Spanish needle	" 9 "	....	36.00
250 " " section honey	" 15 "	....	37.50
Total		....	$124.00

This would make about $1.35 per colony. How is that for high? I extracted two combs from each colony that I ran for comb honey. Get away, Mr. W. S. Hart, with your old 55 bbls.!

Now, Mr. Root, if this report gives any one the bee fever, just let me know, and I will report my River apiary, which is not included in this. I think a report from that will do the business; that is, if something from the dark side would have a tendency to cool the fever. I wonder if any of my brother bee-keepers want to borrow any money.

P. S.—I believe I will say this much about my River apiary. I had 9 colonies; increased to *seven*; got 1½ lbs. of honey, nice enough for the king's table; and if there had been three months less drought, we should have done still better. R. ROBINSON.

Laclede, Ill., Nov. 7, 1884.

Why, friend R., you have given us the best showing for this department, I believe, we have ever had. I shouldn't wonder if there were once in a while a bee-man to be found who would be glad to borrow some money. I don't believe he would feel like paying a heavy interest on it, though. Along the rivers we generally have pasturage, even when it fails on account of drought on the upland; but it seems in your case it did not work that way. Even your increase was down hill instead of up. As you put it, I suppose it took the whole nine colonies to get up that 1½ lbs. of honey. Well, well! just bear in mind we want a report from you next season. May be it will be for another department.

CONVENTION NOTICES.

NORTH-EASTERN BEE-KEEPERS' CONVENTION.

The sixteenth annual convention of the North-Eastern Bee-Keepers' Association will be held in the City Hall at Syracuse, N. Y., on the 21st, 22d, and 23d days of January, 1885. The executive committee are determined to maintain the high standing and enviable reputation the association has justly gained in the past, and proposes to outdo all former efforts, at the coming convention. The meeting will surely be the largest and most interesting ever held in America. No bee-keeper can afford to stay at home. All are invited. All implements of the apiary sent to the society will be properly arranged, to compare favorably with others on exhibition, and will be disposed of or returned as the owner directs. Reduced rates for board at hotels. L. C. ROOT, Pres.

GEO. W. HOUSE, Sec.

MICHIGAN STATE BEE-KEEPERS' ASSOCIATION.

The annual meeting of this association will occur in Lansing, in the Senate chamber of the State Capitol, Dec. 10 and 11, 1884, first session 10 A. M., Dec. 10.

This being the home of Prof. A. J. Cook, and the location of the State Agricultural College, it is expected this will be the most interesting meeting ever held by this society.

A programme is being prepared, including several very important and interesting papers from Prof. Cook, T. J. Burrill, Dr. Beal, R. L. Hewett, and several prominent apiarists from other States. A large delegation is expected from Canada.

The question-box will be one of the important features. Come prepared to ask and answer questions.

Reduced rates on all Michigan railroads, and at hotels in Lansing. The President and Secretary will be at the Hudson House.

Notify me as soon as possible how many railroad certificates you will want, and over what road you will go, so I shall have time to procure them. A cordial invitation is extended to all. Please come, and bring your bee-keeping friends with you.

H. D. CUTTING, Secretary.

Accompanying the above notice comes the following pleasantry from friend Cutting:

Friend Root:—I have just finished reading your article on p. 774. Now, if you have become so "useless" around home, why can you not say, in your next issue, that you are going to Lansing to attend the Michigan State Bee-keepers' Convention, and we will make you useful as well as welcome? You know, we have most excellent meetings. We need your presence and counsel. We expect a very large meeting, and are doing all we can to make it useful and interesting to all who will come. Please say you will come. H. D. CUTTING.

Clinton, Mich., Nov. 18, 1884.

After so kind an invitation, friend C., it does not seem that I can say less than that I will *try* to be with you. I have not succeeded, however, by quite a long way, in making myself *useless* in the "Home of the Honey-Bees;" but I will keep trying, nevertheless.

GLEANINGS IN BEE CULTURE.
Published Semi-Monthly.
A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.
TERMS: $1.00 PER YEAR, POSTPAID.
For Clubbing Rates, See First Page of Reading Matter.
MEDINA, DEC. 1, 1884.

Happy is the man that findeth wisdom, and the man that getteth understanding.—PROV. 3: 13

WE have to-day 7144 subscribers — 13 more than we ever had before since GLEANINGS had an existence, and it is Thanksgiving-day too. Did you ever!

HONEY FOR SALE.

KEEP the sign out, and keep some on hand, if it is only a little, so that if anybody comes to you for honey he will learn to know that he can *always* find it by going to you for it.

DISCOUNTS DURING DECEMBER.

IN the last few days, orders have come in pretty freely; but as there are yet some of the clerks wanting to go to work badly, we will make the discounts on goods for the next season, 4 per cent until the 15th; and after that, 3 per cent from the 15th of Dec. to the first of Jan. Please allude to this editorial when you make your orders.

PRICE OF WAX.

AS money is so close at present, I do not dare offer more than 26 cts. cash, or 28 trade, for fair beeswax. Well, the wax-brokers refuse to sell less than 32; therefore our offer to sell, given on the cover of this number, will be 32 instead of 31, as it reads there. If any of the friends think I am making too much money, suppose they try their hand at it.

ORDERS FOR SECTIONS RECEIVED DURING THIS MONTH.

FOR orders for 10,000 lots or more, received before Dec. 15, we will make the price an even $4.00 per 1000, and the sections will be superior to any thing ever offered by us heretofore. We can furnish them with V-shaped grooves or the square groove, as heretofore, as may be desired. Samples mailed free of charge on application. The above is for the regular Simplicity one-piece section. Orders for odd sizes will be in proportion.

FIRST STEPS FOR LITTLE FEET.

THIS is the title of a little book for quite small children, by the author of the "Story of the Bible." It is nicely bound, full of pictures, mostly of Bible characters, for the book is mainly Bible stories in very plain and simple terms. It is a splendid book for a Christmas present for the little ones. Even if too small to read, they will enjoy the pictures, and delight in having mamma read about them, over and over again. You see, it is quite a good-sized book, containing 327 pages. Price 35 cts.; by mail, 6 cts. extra for postage.

CIRCULARS AND PRICE LISTS FOR 1885.

ONLY one is at present at hand, and this is from E. H. Cook (successor to G. M. Doolittle in the periodical business), Andover, Tolland Co., Ct., a pamphlet of 14 pages, giving low rates on almost all periodicals. By the way, we are better prepared now than ever before to get out circulars and price lists for bee-keepers, from size of postal card to any size you want. All the cuts used in the A B C book, price list, or GLEANINGS are at the disposal of those who have their printing done here, without extra charge for the use of said cuts.

DULL TIMES.

DULL times do us good, friends, if we take them in the right way. Sometimes they bring hard trials; but never mind if they do, so long as you are choosing God for your friend. You are often obliged to refuse your children things they very much desire, but they are in the end happier because you refuse them. Parents sometimes are obliged to punish those they love; but if the child takes it as he should take it, that very punishment conduces to his happiness. Now, it would not be at all strange if some of us needed just about the kind of discipline we are getting; and if we take it as coming from a kind Father's hand, we shall be the happier for it in the end. Such times ought to make us more diligent and more full of energy—more determined to be self-sustaining, and more independent of outside circumstances. If God is within, it matters little what is without.

BACK NUMBERS OF GLEANINGS.

WE have several tons of these on hand, and we can furnish reading cheap to those of our friends who have not got the back numbers. In order to get rid of the stock on hand, we will, until further notice, sell old numbers, no two alike, for the small sum of two cents each, and we can go back to 1872, if you want them so old as that. Of course, we can not furnish special numbers for that price, for there are some we are out of, and others, the price of which would not pay for the expense of hunting. Volumes 1, 2, and 4, we furnish for 20 cts. a volume, fastened together with brass clips. The above prices are where they are sent by freight or express, with other goods. If you want them by mail, add one cent for each number, for postage. These back volumes contain articles from our best writers, and are also full of engravings that cost thousands of dollars. If you wish, we can give you one each from Vol. I. to the present time, with the exception of a very few that are out of print. As GLEANINGS is now in its 12th volume, if you wish to order the whole from its commencement up it will cost you $3.00, for there would be 144 numbers for the 12 years; and as it has been a semi-monthly for 2 years and 7 months, this would add 52 numbers more, making 176 total. As a few numbers will be missing, we will send you one of each as far as we can, for an even $3.00, or as many as you choose at an even 2 cts. each. Now, then, friends, you who want reading for winter evenings, here is a chance for you.

BROKEN COMB HONEY; WHAT TO DO WITH IT.

YESTERDAY we received four cases of comb honey by express, from Wisconsin. They contained 80 sections. The express company had handled them so roughly that they succeeded in knocking the honey out of 49 out of the 80. Of course we wanted to do the best we could for our customer and the express company also; so we took the broken cakes of comb honey, and put each one on a small white pie-plate. Over them a six-inch cake-cover, or glass shade, was placed, and we had 49 plates of nice honey, with a glass shade over each. Well, the plates of honey looked so neat and attractive, as we had them strung along on the counters, that a great part of them were sold before night, at the same price we ordinarily get for the honey in the sections, so we were out of pocket only the weight of the section-frame, and the honey that ran out, which was only liquid honey, and had to be sold at 10 cts. per lb.

ARE EXPRESS COMPANIES RESPONSIBLE WHEN THEY SMASH UP COMB HONEY?

As this honey was to be delivered to us in good order, our customer chose to send it to us by express rather than freight, even though the express company did charge $3.75 for carrying it, when first class freight would not have been over $1.50. By freight, the railroad companies would not take any responsibility; but by express, we expect for the additional price we pay them for handling things they are to be careful. This honey was plainly visible through the glass on the case, and it was so handsome that it seems as though any express agent in handling it would use some sort of care. The cases were also plainly marked, "Handle with care;" but the cases, every one of them, had been thrown violently with great force; for although the honey was securely built into the sections, and the sections were full 2 inches wide, the result was as I have told you. Our friend A. C. Kendel, of the Cleveland seedstore, told us some little time ago, as you may remember, that he had had honey come in better condition by freight than by express. He gave as a reason, that the express companies were in such a hurry they did not have time to handle these goods carefully. Now, if this is so, bee-keepers would like to know it. That honey in cases, with glass on the sides, and the glass unprotected, can be shipped safely by freight, has been abundantly proven, for I saw quite a shipment from George Grimm, of Jefferson, Wis., sent to friend Kendel, without the glass being broken in any of the cases; and, if I mistake not, not a comb was broken down. The shipment sent us had only 20 sections in a case. They fit the cases so closely that no movement was possible, and yet 49 out of the 80 were broken, as I have stated. The loss to us by leakage and extra labor was about $2.50. Will the express company make this up, when the matter is fully presented to them, providing our agent certifies to the facts I have given? Well, we will ask them and see, and I will let you know in the next issue.

"GILT-EDGE" CREDIT.

We have heard of gilt-edge butter, and lately there has been some talk about gilt-edge honey, and I do not know but that some of the friends have been inclined to laugh a little about this matter of gilt edge; but if we are to understand by the term something that is of the very best in every respect, of the class to which it belongs, I do not know but it is a pretty good thing to aspire to gilt-edge products, after all; and when it comes to be applied to man's reputation for promptness, accurcy, and reliability, it seems to me the idea is a grand one. We copy the following from *The American Storekeeper:*

DO IT NOW.

Young man, now is the best time for that which you have to do. To acquire the habit of promptness, should be the wish of every clerk. With the majority of young men it can not be gained without the most persistent self-drilling; for the discipline enforced by most employers is not of the sort calculated to change the habits of a naturally shiftless clerk. Learn to be prompt as a clerk, and the habit will be the best part of your reputation through life.

It is that quality which will stamp you as "gilt-edge" in the matter of credit, win the confidence of your patrons, and give you the respect and hearty co-operation of your employes when you have advanced to the position of proprietor. That old saying about "putting off for to-morrow" *should* read for use in the nineteenth century, "Never put off till nine o'clock what should be done before eight."

Be on hand early, and put things to rights. If there are but five pounds of sugar in the bin, don't wait till you are called upon for ten pounds before opening a fresh barrel, and thus keep the customer waiting. Fill in the spare minutes "trimming ship." Drive the work instead of letting it drive you. If a rainy morning, don't loaf about, thinking you have the whole day before you in which to arrange stock and do other necessary work; the sun may come out before noon, and bring a host of customers, to find you unprepared to meet them. Make it a *rule* to leave none of to-day's work undone. To-morrow has a right to your whole time for the duties coming with it, and you can not know how many or how few they may be. Don't become indebted to the future. There is *always* something to do in the store, and *now* is the best time to do it.

The above applies to keeping a store, it is true; but it seems to me it will fit keeping bees or keeping any thing else. I tell you, my friends, the position I occupy gives me an opportunity of seeing how *very* much we need just this quality of gilt edge in men. Do you say you can not make a slave of yourself to that extent? Very well; then don't grumble if you are offered only a dollar a day when others right by your side are offered three or four dollars a day, and oftentimes can not be engaged at that price. This one thing of keeping your *credit* gilt-edge will count wonderfully through all your life, and I am sure it will count on the right side in the life to come. Put up with poor clothing, if need be; put up with plain simple diet, even though a little hungry sometimes, so you only succeed in keeping your fair name and your credit GILT EDGE.

PHENOL AS A CURE FOR FOUL BROOD.

Some of the friends have asked why it is that nothing has appeared in Gleanings in regard to this remarkable discovery. It is because we have had so many new things that, after a short time, have proved to be a failure, I have been a little backward in giving place to new things. Furthermore, I am, as a rule, opposed to feeding bees drugs. In our last issue, D. A. Jones has given us a plain simple way of managing foul brood without medicine, and in the last issue of the *British Bee Journal*, at least two reports are given where phenol, although tried most faithfully, as it would seem, has not proved a remedy. There seems to be a sort of weakness in the human heart for drugs and medicines; but I hope the day is fast approaching when we can shake off a good deal of the superstition connected with the properties of drugs and chemicals. Thousands of dollars are annually paid out for Paris green for killing potato bugs; but during the past summer, when our gardener called for so much Paris green I was afraid our crop of potatoes would not pay for it, I began questioning whether it would not be cheaper to pitch right in and pick the bugs off. Just a few days ago I was much gratified to find that the great potato-grower of Ohio, T. B. Terry, says he would not use Paris green, if it were given him for nothing. Do you want to know how he does it? He gets a lot of children, at moderate wages, goes with them into the field, and just as soon as a bug can be found they pick him up. This course is followed up whenever a bug shows his ugly physiognomy. No potatoes are killed by the poisonous compound; no bees nor children have their lives endangered; no bill to pay at the drugstore, and not a leaf of his whole potato-patch is injured. Now, this is plain common sense. Even if there is some hard work about it, so it is with friend Jones's cure for foul brood. Of course, I do not mean to reflect on friend Muth's remedy with salicylic acid, for I believe he manages it completely; but there is some hard work about it after all.

DADANT'S FOUNDATION

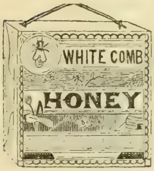
is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

PASTEBOARD BOXES
FOR ONE-POUND SECTIONS OF
COMB HONEY.



THIS box has a bit of "red tape" attached to it to carry it by. It makes a safe package for a single section of honey for the consumer to carry, or it can be packed in a trunk, if he wants. It can be opened in an instant. The price of the box is 2 cts. each, set up; in the flat, 15 cts. for 10; package of 25, 35 cts.; $1.20 per 100; or $11.00 per 1000; 10,000, $100. Colored lithograph labels for putting on the sides, two kinds, one for each side, $3.50 per 1000. A package of 25, labeled on both sides, as above, 60 cts. By mail, 30 cts. more. They can be sold, labeled on one side or both sides, of course. We have only one size in stock, for Simplicity sections. Sample by mail, with a label on each side, 5 cts. If you want them shipped in the flat, labels already pasted on, the price will be one cent each additional, for labels.

A. I. ROOT, Medina, Ohio.

VANDERVORT
COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfdb JNO. VANDERVORT, Laceyville, Pa.

PREMIUM SECTIONS.

—o—

THE ONE-PIECE SECTIONS EXHIBITED BY MR. M. H. HUNT, OF BELL BRANCH, MICHIGAN, AT MICHIGAN STATE FAIR, ON WHICH HE WAS AWARDED FIRST PREMIUM, **WERE MANUFACTURED BY US.** HE WRITES:

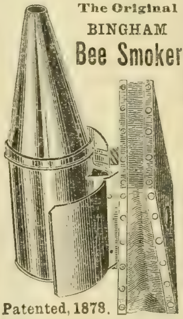
"IF BEES WINTER WELL, I SHALL WANT AT LEAST 200,000 OF YOUR SECTIONS NEXT YEAR."

SEND FOR OUR PRICE LIST OF APIARIAN SUPPLIES; ALSO OF BERRY CRATES AND BASKETS.

Berlin Fruit-Box Co.,
Berlin Heights, Erie Co., O.
23d

BROWN LEGHORNS, COCKERELS,
Pure Bred, Selected, for $1.00 Each.
R. J. NASH, WILLIAMSON, WAYNE CO., N. Y.
23-24d

BINGHAM SMOKERS

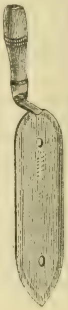


The Original
BINGHAM
Bee Smoker

Patented, 1878.

Last six or more years. Bingham & Hethering'n Uncapping-Knives last a lifetime. Bingham Smokers burn sound maple wood, and do not go out. Bingham Smokers are the most economical to use or buy. Bingham Smokers give the users perpetual delight. Bingham asks you to send card for circular to

PATENTED MAY 20, 1879.



BINGHAM & HETHERINGTON UNCAPPING KNIFE.

BINGHAM & HETHERINGTON.
23d **Abronia. Mich.**

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

TESTED QUEENS, $2.00. Untested, $1.00. 4-frame nuclei, $3.50 and $4.50. Mississippi wax-extractor, $3.00. OSCAR F. BLEDSOE, Grenada, Miss. 3tfd

By Mail Direct from Asia!

IMPORTED CYPRIANS and IMPORTED SYRIANS.

Grades and Prices of Queens:	Spring	June	July Aug.	Fall
Finest Selected Q'ns, each....	$12 00	10 00	$9 00	$8 00
Fine Prolific " "	10 00	9 00	8 00	7 00

I shall visit my Eastern apiaries this winter, and bring back early in the spring a fine lot of queens. Those who desire can have queens MAILED DIRECT FROM CYPRUS OR FROM SYRIA to their addresses during March, and on all queens so sent I will assume three-fourths of the risk provided the purchaser receives mail from N. Y. City in five days. For the Pacific Coast I will assume one-half the risk.

IMPORTED PALESTINE QUEENS (so-called "Holy-Lands.")

Prices three-fourths those of Imported Cyprians and Imported Syrians. Though Palestine bees possess some valuable qualities common to Cyprians and Syrians, still, on account of their very bad temper and poor wintering qualities I can not recommend them for general introduction. To fanciers, however, who desire them, I will say I can furnish as fine imported queens as are to be had in Palestine.

CYPRIANS AND SYRIANS FERTILIZED IN CARNIOLA.

By mail from Germany, safe arrival guaranteed up to twenty-one days. Prices two-thirds those of Imported Cyprians and Imported Syrians. All these queens are selected daughters of fine imported stock; are reared in full colonies, and are fertilized in Carniola itself, where, of course, ONLY Carniolan bees exist. From these crosses bee-keepers may expect the best results which can be obtained through crossing any two distinct races.

DISCOUNTS: On six queens, 5 per cent; ten qns., 10 per cent; twenty qns., 12 per cent; forty qns., 15 per cent. Ten per cent may be deducted from above prices, if cash is sent in before Jan. 1st. *None but cash orders filled.* Remit by greenbacks in registered letter, draft on Munich bank, or postal order.

24d *FRANK BENTON, Munich, Germany.*

WANTED.

A competent and reliable man to take an interest in, or as employe in an Apiary and Nursery combined. Best of references given and required.

24-1d Address E. L. SINGLETON, Flemingsburg, Ky.

FOR SALE CHEAP.

A hand circular-saw machine. Good as new. Just the thing for hive-making; centrifugal power. Also two circular-saw mandrels, new and bright, one for foot power. Write for description to D. S. HALL,

24d. So. Cabot, Wash. Co., Vt.

APIARY FOR SALE.

In good location, with 70 colonies of bees, all in first-class condition, all on Simplicity frames; with 3 imported queens, my own importation. My reason for selling is, I have a large apiary in Southern Arkansas, and it is too far to give attention to both of them. If anybody wants to buy a good apiary, with fixtures, every thing that you want and need, hives, sections, honey-extractor, honey-knives, smoker, 150 hives, etc., here is a good chance. Bees are Italian, Holy-Land, and Syrian. All first-class. Price on application. Address

LOUIS WERNER,

24-1-2d **Edwardsville, Madison Co., Ill.**

WANTED. I want a correspondence with some one who can give good reference, and wants to buy or rent a farm and apiary; or either; or work for wages. A. W. MATTHEWS,

24-5db Potts' Station, Pope Co., Ark.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

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300 Colonies of Bees For Sale,

Also 40 acres of land adjoining the city; good house, and plenty of good water. ANTHONY OPP,

21tfdb Helena, Phillips Co., Ark.

PREMIUM SECTIONS

It was our make of one-piece sections on which Mr. M. H. Hunt, of Bell Branch, Mich., was awarded first premium. The *sections which he exhibited were not selected* for the occasion, but were just such as we had *put up and sent him for ordinary use.*

Send for our circular and price list.

BERLIN FRUIT-BOX CO.,

24d **Berlin Hights, Erie Co., O.**

Established 1855.

HEADQUARTERS BEESWAX

We have constantly on hand a large stock of Domestic, Imported, and Refined **Beeswax** in original shape, which we offer to manufacturers of Comb Foundation at lowest prices. Write to us for prices, stating quantity wanted. Address

R. ECKERMANN & WILL.

Beeswax Bleachers & Refiners. SYRACUSE, N. Y.

N. B.—We have low freight rates to all points on quantities. 24-11db

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WANTED.

To exchange some fine colonies of bees for a light planer, also a section-box machine.

O. H. TOWNSEND,

24d Alamo, Kal. Co., Mich.

BEE-HIVES!

The Cheapest Hives, Sections, and Frames, Made and For Sale by

24tfdb *T. A. GUNN, Tullahoma, Tenn.*

NEWSPAPERS and MAGAZINES

AT WHOLESALE RATES TO BEE-KEEPERS.

REMEMBER, I Will Not Be UNDERSOLD.

CLUB LIST FREE. **E. H. COOK,**

24d (Successor to G. M. Doolittle), **Andover, Conn.**

VANDERVORT
COMB FOUNDATION MILLS.

Send for samples and reduced price list.

2tfdb JNO. VANDERVORT, Laceyville, Pa.

GALVANIZED IRON WIRE.

I HAVE just hunted up a lot of galvanized iron wire, nicely wound on spools, and it is just the size wanted for grapevines and a thousand other purposes. It is very neatly put up, like the spools I illustrated on page 45; and as the manufacturer did not dispose of it as rapidly as he expected, I bought his whole stock, and can furnish it to you at a price lower than any more can be made after this stock is gone. We can sell you ¼-lb. spools, No. 20 or 22 wire, for only 5 cts., and they contain 78 and 119 feet respectively. If wanted by mail, the postage will be 7 cts. more. As this wire never rusts, it can be used for a thousand other purposes in place of copper wire, and the expense is only about one-fourth that of copper. We can furnish 1-lb. spools containing five different sizes of wire; namely, 17, 18, 19, 20, and 22 guage, for only 15 cts. per spool, instead of 20, as heretofore. If wanted by mail, 18 cts. per lb. extra for postage and packing.

A. I. ROOT, Medina, Ohio.

REDUCTION IN GLASS.

WE have succeeded finally in getting glass so near home that it is shipped to us with once handling, with very little danger of breakage, and with such an important reduction in price that A glass for large shipping-cases, which has heretofore been $4.00 per box, will be now only $2.50—quite a drop, is it not? Other sizes in proportion. For prices on different sizes, see our price list.

A. I. ROOT, MEDINA, OHIO.

HONEY COLUMN.

CITY MARKETS.

KANSAS CITY.—*Honey.*—Our honey market has been quiet for the past week, the demand being for one and two pound sections in 24-pound boxes; 1-lb. sections, 15@16c; 2-lbs., 14c; these prices are for good white; dark comb selling from 10@12c; extracted, 6@8c for fair to choice. Our stock of 2-lb. sections, choice, is very low.

Nov. 25, 1884. CLEMONS, CLOON & CO.,
Cor 4th and Walnut Streets, K. C., Mo.

ST. LOUIS.—*Honey.*—There is only a small retail demand for choice extracted honey. We quote southern in bbls., 5½@6c.; half-bbls., 6@6¼. Northern, in kegs, choice, 7c.; in cans, 10c. Comb honey, white clover, in one-pound sections, worth 17@20c. Small retail demand. Dark honey not salable.

Beeswax.—Fancy yellow, 28@30c. Receipts small, and demand light. W. T. ANDERSON & CO.
Dec. 10, 1884. 104 N. Third St., St. Louis, Mo.

CHICAGO.—*Honey.*—Our market is quiet, and stock has increased largely of late, and concessions may be made at any time, if possible to effect sales thereby, consignors being anxious to realize at this season of the year. Beeswax and extracted honey unchanged in value. R. A. BURNETT,
Dec. 11, 1884. 161 South Water St., Chicago, Ill.

DETROIT.—*Honey.*—The honey market is fairly active, with a good supply. Prices from 12@15c.
Detroit, Mich., Dec. 11, 1884. A. B. WEED.

BOSTON.—*Honey.*—We quote you our market a little dull. One-pound sections, 18@20c; 2-lbs., 16@18c; extracted, 7@9c. BLAKE & RIPLEY,
Nov. 28, 1884. 57 Chatham St., Boston, Mass.

WANTED.—To buy and handle on commision, fifty thousand lbs. of comb and extracted honey, during the season. Write me for information, and give price and condition. JOHN A. BUCHANAN,
Holliday's Cove, Hancock Co., W. Va.

FOR SALE.—4000 lbs. honey for sale, to highest bidder. Choice white clover and basswood, or fall honey. Half price for storage.
F. E. TOWNSEND, Newark, Mich.

WANTED.

Employment in a Southern apiary, by a young man of considerable experience. Write for terms and references to F. F. ROE,
24d Jordan, Jay Co., Ind.

BROWN LEGHORNS, COCKERELS,

Pure Bred, Selected, for $1.00 Each.

R. J. NASH, WILLIAMSON, WAYNE CO., N. Y.
23-24d

BEE-HIVES AND APIARIAN SUPPLIES.

We expect to have our new shop equipped and in running order by the middle of December. Then we will claim the best facilities for furnishing supplies in the South-East, and will furnish all kinds at very reasonable prices. Parties needing supplies would do well to see our prices before buying. For list, address **S. VALENTINE & SON,**
23-24d **Hagerstown, Washington Co., Md.**

FOR SALE.

As I intend to "go West" next February, I offer for sale my house and lot, and 50 stands of bees, all good Italians. Some of my queens were from A. I. Root, and some from J. A. Green, Dayton, Ill. I have more than I can take with me.

JAMES KINGHORN,
23-4db SHEFFIELD, BOONE CO., ILL.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Wm. Ballantine, Sago, O.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; and numerous other dealers.

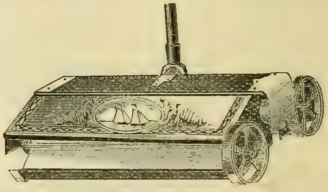
Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

SPECIMEN BOOK
FREE.
GEO. M. GRAY & CO.
HONEY LABELS
ALL PRINTING *First Class.*
JOB PRINTING *Of all Kinds.*
MEDINA,
MEDINA CO., OHIO.

IMPROVED SMOKERS with handle, $1.00. Samples of either S. S. Cards, Christmas, Advertising, Birthday, or Visiting Cards, 10c. Write for price list of fret-saw designs, Microscopes, etc.
J. L. HYDE, Pomfret Landing, Windham Co., Ct.

CARPET-SWEEPER.



This is a beautiful new sweeper, all metal, with latest improvements. The dust can be poured from the sweeper into a pail, without unhooking any thing. The handle stands straight up, ready to take hold of, wherever you happen to leave it. I have selected this one from a great number in the market, because my wife has been telling me for some time that nothing in the whole round of household conveniences saves a woman more time and hard labor than a good carpet-sweeper, especially where there are children to scatter bits of paper, crumbs, etc. Price $2.00.

A. I. ROOT, Medina, Ohio.

GLEANINGS
IN
BEE CULTURE.
DEVOTED·TO·BEES·HONEY·&·HOME·INTERESTS.
F.A. Whiting

Vol. XII. DEC. 15, 1884. No. 24

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.
PUBLISHED SEMI-MONTHLY BY
A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

SUGAR SYRUP.

HOW TO PREPARE IT, TO FEED BEES.

WHY, Bro. Root, I am surprised at what you have to say in your foot-notes under Bro. Doolittle's article on p. 761, GLEANINGS for Nov. 15. It is not so strange that Bro. D. should have so little knowledge of a branch of apiculture so new to his experience. Bro. D. does not say so, but it should be remembered that grape sugar, glucose, and honey, are not equal to cane-sugar syrup, with which to winter bees; and any recipe for preparing their winter food, which necessitates the use of any of them is not a good one, nor is any such addition at all necessary.

Are you not aware, that there is a great difference in the crystallizing tendency of different lots of pure granulated* sugar? Are you not also aware, that when the bees hold the syrup in their bodies they add more or less formic acid to the syrup, and the quantity which they add has much to do with whether the liquid will crystallize or not, after being deposited in the cell? Also, that there is quite a difference as regards crystallizing, as to how much water is added to the sugar, and how hot when added?

On four different occasions I have fed sugar to my bees to winter upon, the past month giving them twenty barrels of about 300 lbs. each, or about 6000 lbs., so you see I am not without experience in the matter. I will tell your readers how I prepared the syrup to feed.

If I can do my feeding at a time of year when we are to have a few weeks of summer temperature after it, I use 5 lbs. of water to every 10 lbs. of granulated sugar; but if I fear that we are to have no such weather, suitable for the evaporation of the syrup by the bees, I use only 3 lbs. of water to every 10 lbs. of the sugar. I use a solid copper pan, 9 inches deep and a little larger than the whole top of the stove. It easily accommodates half a barrel of sugar at each boiling. It has a large brass faucet in one side, near the corner, from which we draw the syrup, when done.

We first put the desired amount of water into the pan, and bring to the boiling-point (the pan sits on the griddles, which we never remove). We then *sprinkle* in the sugar, stirring all the time with a broad wooden paddle, so that no grains rest on the bottom of the pan. As soon as the syrup comes to the boiling-point we add a piece of tartaric acid, about the size of a large hazlenut, or, say, what would lie on a nickel (heaped up), to every 10 lbs. of sugar. This we usually have previously dissolved in a little water, and pour in the solution. Now let the syrup boil about five minutes, and remove; and when cooled sufficiently, it is ready to feed, and will *not* granulate, unless you have different sugar from any we have used, or a less concentrated tartaric acid. One or two teaspoonfuls of cream of tartar to each 10 lbs. will also do. As long as you notice any tendency to crystallize, be not afraid to add more acid.

Bro. Doolittle says his syrup would granulate unless he added so much acid that it gave it a disagreeable taste. Now, I have never noticed any such disagreeable taste; and if I had, what of it? for the bees *do* winter nicely on sugar syrup that contains twice as much acid as is required to stop all tendency toward crystallization.

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*The word "granulated," as applied to honey or grape sugar, would be correct; but as applied to cane sugar, it is a misnomer, the word "crystallized" being the proper one.

A brother in this State told me that just before M. Quinby's death he was writing to him about experiments he (Quinby) was making, by feeding bees strongly acidized food, as a prevention of dysentery, and these experiments looked favorable to success. Now, it is a chemical fact that there is more acid in honey that *will* granulate when exposed to a low temperature, than it requires to prevent granulated-sugar syrup from crystallizing under any circumstances. Sugar syrup thus made will bear more abuse; that is, more exposure to dampness, and not ferment, than any sweet liquid I know of. I have had such syrup stored by bees, and never one cell capped, and the bees wintered well, and the syrup remained in perfect condition, though exposed to considerable dampness.

But Bro. D.'s talk about the sticky wings of his bees makes me shudder. I have no faith in any system of feeding that pours the feed about loosely, or on to the bees. I know that usually they clean each other all off, but not *always*. Sometimes these honey-baths leave upon the workers a bad, everlasting mark. I want it to go to record, that I now say that the time will soon come when all such feeders as Bro. D. describes, and such methods of feeding as pouring the feed into the back end of the hive (or front end either, for that matter) will be laughed at as things of the shady past.

We placed in our feeders on the hives 1000 lbs. per hour, about 15 lbs. per feeder, and the bees stored it all away in their cells during the next 24 hours. We use a feeder of about 18 lbs. capicity, one that gives no opportunity for robbing, waste no heat, can not daub a bee, brings you in no contact with, or lets out a bee when filling or refilling.

Any time you wish to describe it to your readers, I will gladly ship you one, since you have said that "the supply-dealer who would copy something well known to be the property of another, without getting the privilege of doing so, by purchase or otherwise, would very likely lose more than he made, so strong is the disposition of our people to give honor to whom honor is due."

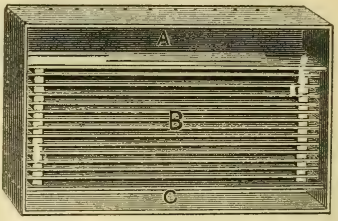
More than one inventor who has no patent, but yet has pride in his inventions, and dislikes to see imitators rush into the manufacture of his fixtures, before they hardly know their bearing, and turn them out "slop shop," thus injuring the reputation of his discoveries and his genius, is thanking you for that sentence on page 620. I would never think of a patent to prohibit any one's making any of my inventions for his own use, but I call it despicable for dealers to run right into a traffic in them; and seeing such things, induces us to stop this moral wrong by obtaining a patent.

JAMES HEDDON.

Dowagiac, Mich., Nov. 18, 1884.

After receiving the above, we wrote at once for one of the feeders mentioned, and had an engraving made, which we submit below.

It seems to me to be a large Simplicity feeder, with the following additions: The feeder is made the full size of the top of your hive. It is made of wood; and to hold syrup without leaking it must, of course, be very nicely put together. The bottom does not cover the whole of the bottom of this half-story, so to call it; but a space at C, just one inch in width, is left uncovered by the bottom. The partition C extends up to within ⅜ inch of the top, to allow the bees to come up and go over between the partitions B. Now, this division-board C, the bottom, and the whole outside case, are put together very strongly. To make sure that the bottom is tight, it is grooved into the side-boards all around, then nailed very closely, as you see, and the whole well painted with good thick paint. The strips of wood to prevent the bees drowning in the apartment B are made of 3-16 stuff. Some strips of wood, which look like narrow lath, are put between them, leaving a ⅜ space—the same space we have in the Simplicity feeders. These partitions are sawed out rough, and are unpainted, so that the bees can cling to them the better, and the whole sits down in the box rather loosely, not quite touching the bottom. Their top edges are just level with C, or ⅜ below the outside case.



HEDDON'S "FOUR-HORSE" BEE-FEEDER.

A is the place for pouring in the syrup when you want to fill up. The partition between A and B comes clear up to the top of the outside case, and reaches the bottom within about the thickness of a silver dime. It is quite important to have this space just right. If too great, the bees, after they have emptied the feeder, in their anxiety to lick up what remains in, will squeeze their heads under this partition, and stick there and die. If too small, the wood might swell up so that no syrup can get through. Besides the space under the lower edge of this partition, there are several saw-cuts in the partition, made by dropping it over a buzz-saw. Well, I looked the whole thing over, and decided it was not any thing particularly new. Similar feeders have been made in great variety, of all sizes and dimensions, ever since I figured and put the Simplicity feeder upon the market; but a scrap of paper that came with the feeder suggested a new and important idea; for on it was hastily scrawled the following:

> To cover this feeder, we use the hive-cover. To fill it, we slide the cover sidewise, and back when filled.

You see, when you want to fill up the feeder, slide back the cover, which is so nicely made and perfectly cleated that it covers the hive or feeder bee-tight; therefore to fill the feeder, all you have to do is to slide it sidewise until A is uncovered, then pour in your feed. I should think the feeder might hold half a pailful, and this is certainly a wholesale way of feeding. Why, the biggest swarm of bees you ever saw might pile right into it, and go to work all at once almost. The only hindrance I can see would be that the passage over the top of C would be too small to let them travel back and forth from the combs to the feeder. I should think a colony might empty the feeder in three or four hours, and once or twice full would winter them. Friend H. has not mentioned the price, so you will have to write to him. Probably it is given in his price list.

Now let us see what objections we can find, for we always consider the objections to every thing that is figured in GLEANINGS, as well as the good qualities. If you feed many hives at once you will want quite a number of feeders, which must be stowed away somewhere. They can be tiered up like Simplicity hives, it is true; but they are occupying quite a little room. Your hives and covers must be made so exact that any feeder will fit in the hive bee-tight. If you should have warped covers that would let the bees squeeze out and in, oh my! what a robbing you would have! and I am inclined to think, that if our bees got a going they would push those covers right up, unless there were a pile of stovewood or some stones on top. I do not quite see, either, how it is that no bees ever have their wings daubed; for if that feeder were chock full of bees licking out the last bit of feed around the bottom, and the feeder should be suddenly filled up, wouldn't the honey spouting through those saw-cuts sprinkle their backs —at least a few of them? And if it boiled up under that partition rapidly, wouldn't they cling to the bottom until they were covered up, a good many of them? I have used just such feeders with a glass over the top; and, in fact, the Gray feeder is on the same principle; and when we fill it up, the bees do not rise up on top of the syrup, as we expected to have them. A good many stick to the bottom, and come up and swim after a while. I do not think of any other objection, and no doubt these can all be easily overcome. Warping covers, or covers a little on the wind, I think will be found the most troublesome objection.

UNITING NUCLEI; A NEW PLAN.

DOOLITTLE'S METHOD.

I AM requested to give in GLEANINGS my new plan for uniting nuclei, which I used the past fall with perfect success. Previous to this my worst trouble has been, that by all the ordinary modes of uniting bees, too many of them would return to their old location, thereby causing quite a loss of bees, while with the plan about to be described no such loss will occur, providing the bees are caused to fill themselves with honey. Also in uniting in this way, whether nuclei or full colonies, the bees never quarrel, no matter whether it is a time of scarcity or of plenty, regarding the honey secretion.

I first make a box without sides, large enough to hold the desired quantity of bees. For 3 or 4 nuclei this box should hold about 12 quarts; while for uniting full colonies or a large number of nuclei it should hold at least 20 quarts, as the bees must not be so crowded that a lack of ventilation is caused. This box is to have each side covered with wire-cloth, one of which is to be nailed permanently to the box, and the other is to be made removable by tacking the wire cloth to a light frame which can be easily put on and taken off the box. In the top of the box a hole is cut, into which one of the large funnels used in putting up bees by the pound is to be inserted. A small hole is bored near one end, through which the selected queen is to be given to the bees after all are put together in the box. Some means should also be provided to close the large hole which is used for the funnel, as well as a cork for the small hole. Having all in readiness, proceed to the nuclei which are to be united, and blow a little smoke into the entrance of the first, after which give the hive several smart raps or blows upon its top with the doubled-up hand, when you will proceed to the next, and treat that in the same way. This is done to cause the bees to fill themselves with honey; for unless thoroughly filled, some will return.

When sufficient time has elapsed (I usually wait 3 or 4 minutes) for the first one to get filled with honey, I proceed to open the hive and shake the bees into the funnel, down through which they go into the box. If I have not previously disposed of the queen I catch and cage her when I come to her. In this way the bees are shaken from all the combs into the box. When well filled with honey, even the Italians are quite easily shaken off the combs.

Right here I will tell the readers how to shake bees off combs, as many seem to be unable to get the bees off short of brushing. The bee braces itself only against falling off the comb downward, for the thought that it is possible to fall upward off the comb never seems to enter its head, so it holds tenaciously only from the upper side. Taking advantage of this fact I take the projections of the top-bar to the frame, and place them on the two middle fingers of each hand, letting the frame hang on them, as it were. Now raise the frame up quickly by raising my hands six inches or more, and then with a quick motion strike down. This quick downward motion causes the ends of the frame to jump from the ends of the fingers and strike the ball of the hand, thus giving the comb a sudden jar with a downward motion at the same time, while the impetus of the bees is all upward. This takes them all unawares, and thus dislodges them from the comb, while any quantity of downward shakes would loosen but few of them. In this way I can clear a comb entirely of bees in short order by giving it 3 or 4 such jars. Metal-cornered frames are not so easily managed, but it can be done even with them.

But, to return. As soon as all the bees from the first nucleus are in the box, I proceed to the second; but if more than two are to be united I go first and smoke, and drum on the third hive, so the bees in that can also be filling themselves with honey, when No. 2 is shaken in the box with the first, and in the same manner. And thus I keep on till I have as many in the box as I wish for one colony.

I now proceed to select the queen I wish for them; and when I have done so I lay the cage containing her in some convenient place near at hand. I forgot to say, that while not actually shaking bees in the funnel I keep a cloth in it, which prevents any of the bees crawling or flying out. To remove the funnel I set the cage-box down suddenly, which causes the bees to all go to the bottom of the box, when the funnel is removed, and the hole covered. I now thoroughly mix the bees by tumbling them from one side of the box to the other, when the box is again set down suddenly; and while the bees are at the bottom, the queen is let to run through the small hole, in with the bees. They are now mixed a little more, when the box is set in the cellar, or in some cool dark place, and left. If the caging is done in the forenoon, the box is not disturbed till about sunset; while if the caging is done in the afternoon, the bees are left in the box until early the next morning.

At sunset, or early morning, as the case may be, a hive is placed where I wish the united colony to stay, and prepared with enough frames of sealed stores for the bees to winter on; or combs absolutely free from pollen can be given, and enough sugar syrup fed for their winter's food. When the hive is thus prepared, the box of bees is brought from the cellar, the removable wire-cloth side taken off, and the bees emptied out and hived, just as a natural swarm is hived. In this way all are united peaceably, the selected queen safely introduced, a hive fixed in complete winter trim, with no bees to bother while fixing given them, and, best of all, no loss of bees by returning, sustained in the operation.

G. M. Doolittle.

Borodino, N. Y., Dec. 1, 1884.

The above plan no doubt answers the purpose, and the process as gone over brings to view many points based on a knowledge of the habits of bees; but still it seems to me that it involves a good deal of unnecessary work. We have reduced over 400 colonies to less than 200 during the past few weeks, and no bees have been stung, and we think that very few indeed have been lost, from the fact that we have not found dead bees around the entrances. When a hive is moved away, the returning bees unite with other hives near by, and, as a rule with us, are very kindly received, especially as it is done at a time when we are feeding almost all colonies in the apiary. They are so busy with their feed that they take little notice of the new comers. A year ago we did almost no feeding at all, and yet we united in the same way, with very little loss. Our apiarist, however, is constantly among them, and watching; and if any bees are being stung, the colony is vigorously smoked. After that, they usually take in new comers without any trouble. Many times, however, it will be quite convenient to use Doolittle's wire box. We can pick up bees in this way from different locations, until we get such a sized swarm as we deem best, then make one of them.

HOW THE FARM PAYS.

THE above is the title of a new book, written by William Crozier and Peter Henderson. Mr. Henderson is, as you know, the great market gardener of the world. Well, William Crozier is the great farmer of Northport, Long Island. The book is mainly a conversation between these two great farmers in their special lines of work, comparing notes, as it were, and the talk was taken down by a shorthand writer. The two together discuss almost every crop, implement, and animal known on the farm. Henderson's wonderful success with crops has been, as you may know, by thorough culture and abundance of manure; that is, getting large crops from a small amount of land. Mr. Crozier has done much the same thing with farm crops, and it is exceedingly interesting to see how the two agree in rehearsing their experience. I will make a couple of quotations, to give you an idea of the work. Discussing potatoes, Mr. Henderson related the following:

HOW TO INCREASE YOUR STOCK OF VALUABLE POTATOES.

I remember very well, when the Early Rose variety was introduced, that I purchased a tuber weighing five ounces.

In April I cut this five-ounce potato in two pieces, so that each surface would present the greatest number of eyes. I then placed them on a shelf, keeping them entirely dry until the cut part had healed over, when they were placed on soil on the bench of the greenhouse. The shoots soon began to start from the eyes, the temperature of the greenhouse averaging, perhaps, 75 degrees.

As soon as the shoots got to be three or four inches in length, they were cut off about ¼ of an inch from the surface of the potato, or far enough from the surface so as not to injure the dormant eyes that were yet to start. The slips were then placed in the propagating-house, and shaded and watered until rooted in the usual way. They were then potted in small pots, in ordinary soil, and started to grow in the same temperature in which the potato had been placed. As the season advanced, shoots in great numbers were thrown out by the potato, which, in turn, were submitted to the same process of rooting. As the first shoots grew to lengths of five or six inches, the tops were cut from these and used as cuttings, so that by the end of May this small potato of five ounces had given me nearly 150 plants, every one of which was equal to a "set" made from a tuber. These were planted out on the first week in June, in land very ill suited for the growth of the potato, and the crop, when dug, weighed exactly 450 pounds, or an increase of about 1800 fold. It may be asked if this process is of any practical value, or whether it will pay. It is not claimed that there is any use in the practice when potatoes are sold at ordinary rates; but, when they are sold at the rates even yet paid for new varieties, there is no doubt of its utility. For instance: One pound of potatoes so grown will easily produce 500 plants, making 500 hills, which, with ordinary culture, will give three pounds per hill, or 1500 pounds. The process of rooting the slips is neither difficult nor costly, and can be done in a common hot-bed. The ordinary hot-bed sash, four by six feet, will hold 600 plants, if placed in the soil of the hot-bed, just as lettuce or cabbage plants are planted out, and treated much in the same way by careful shading and watering until the cuttings have rooted. These, as they grow, make other cuttings from the top, as before described. Without resorting to the glass propagation at all, a potato crop may be doubled or trebled in quantity by "slipping" the shoots, and planting them out at once in the field, if there is a continuance of rainy weather for two or three days at the time. This should be done in June. The thinning-out of shoots from the regular planting will do no injury to the plants. It is not claimed that the growing of potatoes in this way is new; in fact, it may be doubted if there is much new in agriculture; processes that are suggested to us by circumstances to-day may have been practiced by others centuries ago, and if published to the world at all have long since been forgotten; but there is little doubt that this practice of growing potatoes from cuttings will be new to many who will read this book, though the principles involved, and, perhaps, the practice followed, have been long known to many farmers and gardeners of experience.

Although this system of propagating the potato may be of very little use to the farmer in a general way, when there is plenty of seed, yet whenever he invests at the rate of one or two dollars per pound for new varieties it will be worth his while to try it, and he may be assured that if properly done it will give good results.

Again, in discussing what may be done in the way of forage plants, the following is related:

PEARL MILLET AS A FODDER PLENT.

Another important fodder plant, to a limited extent, is Pearl Millet, which I tried several years ago; but as you, Mr. Henderson, have got some notoriety by your experiments with it at that time, and some blame too, I think if you have no scruples in the matter it would be well to give such information in regard to it as your experience enables you.

(Mr. H.) Pearl Millet is now well known all over the country, especially in the Southern States, where it goes by the common name of Cat-Tail Millet. In 1878 I determined to give it a thorough trial, and prepared a piece of good ground, as if for a root crop, by manuring at the rate of 12 or 15 tons to the acre, plowing deeply, and harrowing. The seed was sown in drills twenty inches apart, at the rate of four to five pounds to the acre. The seed was sown about the middle of May. When the plants were up, a cultivator was run through the rows, and the growth became so rapid that no further culture was necessary. The first cutting was made 45 days after sowing; it was seven feet high, and covered the whole ground. The crop, cut three inches above the ground, weighed, as cut, at the rate of 30 tons per acre; *dried*, 6½ tons per acre of hay. The second growth, cut 45 days from the time of the first cutting, was nine feet high, and weighed at the rate of 55 tons to the acre fresh, equal to eight tons dried. The last growth started rapidly, but the cool weather retarded it, so that the last cutting weighed only ten tons green, and 1½ tons dried. The total yield was as follows: First cutting, in 45 days, gave thirty tons green, or 6½ tons dry; second cutting, in 45 days, gave 55 tons green, or eight tons dry; third cutting, in 45 days, gave ten tons green, or 1½ tons dry; in all, being 95 tons green fodder in 135 days, equal to sixteen tons of hay. These results, published at the time, gave rise to some severe critcism by persons who had failed to do as well with the crop as I had done. But it should be remembered that the conditions under which an experiment is made are essentially necessary to a successful repetition of it; and if these differ in any respect, and especially if they are inferior, failure is apt to result.

As I have had many inquiries as to the best manner of drying Pearl Millet for "hay," I would say that our crop was sown in a solid block, so that when cut it had to be removed from the land where it grew, and tied in sheaves, and hung up on an extemporized rail fence until cured. This plan, of course, would not answer on a large scale, as the crop is so enormous that such an expedient for drying would be too expensive both for labor and rails; and as it is too heavy and succulent to be dried like Timothy and Clover, on the ground where it is cut, it must be removed, for to attempt to dry it where it grows would destroy the second crop. Circumstances, of course, must in a great measure be a guide; but we would suggest, that when grown for the purpose of being dried, that it be sown in beds, say 12 feet wide, with alleys six feet between, where it may be dried; this, of course, would be a loss of one-third of the land for the first crop, but it would be little or no loss of crop in the second, for the millet would spread so as to fill up all the six feet of alley.

It seems to me that this book, laid on any farmer's table, ought to pay for itself many times over in the course of the coming year. Where is there a farmer's boy who wouldn't delight to see pictures of the latest improvements in farming-tools, and stock and farm products? and when you add to these remarks the suggestions from such old, wise, and successful men as Peter Henderson and William Crozier, the book becomes of immense value. Now, then, if you want to make your boys or your husband or your father a rational Christmas book, give him this beautiful volume. The book is, in the size of pages, about equal to the A B C book. It contains about 400 pages. The price is $2.50; but by taking 100 copies at a time I can get them so I can club it with GLEANINGS for only $2.75. If you want it sent by mail, add 20 cts. extra for postage. If you have already sent in your subscription for 1885, you can have the book for $1.75, postage added. You will see by the postage that the book weighs 2½ lbs.

CARP AND TEXAS.

FRIEND KLUM'S EXPERIENCE IN THE BUSINESS.

WELL, I feel proud of the "Fish Department" in the JUVENILE. Shall I tell what I know about carp? In 1881 I saw an article in our county paper, that the Agricultural Department at Washington would send out carp. I wrote to the Fish Commissioner, and he told me he would send me 20 if I would pay $2.00 for a can, and the express charges. I sent the money. It was in May. In due time the can came to Sherman with 21 fish, 14 dead and 7 alive; express charges, $5.05. My friend in Sherman changed the water, and the next morning brought them to me, 8 miles on horseback. Only 5 were now alive. The largest one was about 4 inches long, the smallest one about 1½ inches. I turned them loose, and saw nothing more of them until the next February, when I drained my pond and found 3 fish, about 16 or 17 inches long; they would weigh (estimated) 3 lbs., not one year old yet, unless the start I got was yearlings.

I decided I had two females and one male. Remember, this was in Feb., 1882. I dipped all the native fish and water out of the pond (we call it tank), filled it again with water, and turned my three fish loose again. The next January I drained and dipped, and got my three spawners and 1500 young fish, not one less than 4 inches long, and several 9 inches long, large enough to eat, the first year from the spawn.

That is the success I had. Do you want to know the failure? I could not fill all the orders last spring at $2.00 for 20, $8.00 for 100. I have shipped a few with good success. Oh! that looks like an ax to grind. Let us all vote for the fish department.

We get double the growth here that you get up north. They feed and grow all winter, some seasons, and some well-grown ones will spawn the second summer.
M. S. KLUM.

Sherman, Texas, Nov. 4, 1884.

While away it was my good fortune to be able to visit the building belonging to the Ohio Fish Commission, at Sandusky, Ohio, where the German carp emanate from, mentioned on another page. The superintendent informed me that all the carp have been distributed that can be spared this winter, but he hopes, with perfect arrangement, to be able to commence shipping again in July next; so, friends, you can be getting your carp-ponds in readiness. While there I witnessed the operation of hatching white fish by artificial means. Only sixty millions were under the process of hatching, while I was there. They were hatched in tall glass jars, through which running lake water is made to pass constantly. The outside world may know nothing of what is going on inside of the bee-hives belonging to our people, but it is also true that the outside world, including bee-folks, are, at least many of them, comparatively ignorant of what is being done in the way of disseminating fishes. Think of the herculean task of filling Lake Erie with fish hatched by artificial means; but yet, dear friends, that is exactly what they are doing. Doesn't it make one feel like taking off his hat, and looking around somewhere for a low seat away back?

The above from friend Klum is exceedingly valuable, as it demonstrates what we have long felt probable, that carp in the Southern States would grow all winter. It gives us all the more pleasure, too, from the fact that friend Klum has been one of our old friends, almost from the time when GLEANINGS commenced. But, friend K., you did not tell us the size of your pond. In fact, we can hardly wait until we get the next number, to know how large a pond we must have to hold 1500 fish, from four to five inches long.

* * *

PUTTING A CIRCULAR SAW IN ORDER.

AND FRIEND CHURCHILL'S IDEAS IN SOME OTHER MATTERS AS WELL.

FRIEND ROOT:—As there are many bee-keepers who use foot-power saws, who have had little experience in fixing them, I will try to present a few ideas from 20 years' practice. I have sometimes got heavy sawing done at a common saw-mill, but, oh such rough work! all of which must be planed before any one would call it first class. I find nearly every saw is filed square on the inside of the teeth, so there is no slicking or planing of the wood; therefore the chips are rolled out, not cut. I have tried every way I could think of, and I find that quite a strong bevel on inside of tooth for splitting saws gives best results. It should be about 45 degrees slant, and the back of tooth should be perfectly square. I always mark the collar to the saw-arbor, and also the saw, and with the arbor I mark plumb up. I put on the saw, with saw-mark to correspond with arbor-mark; of course, the saw rests down on the arbor. I always set the saw first, and adjust it on the arbor, then joint it; next I side up the rough and uneven points with an oil-stone. I file saws in a vise made for the purpose.

For cut-off saw, I find they work best, filed alike on both edges of tooth, with a medium bevel. In all cases, as little set as the saw will work well, the better; and to do good smooth work it should be jointed often, and every tooth must be true. For a splitter, a long hooking tooth is the best. I find that, to do nice work, the saw should not reach much above the wood it is sawing. In sawing sections I raise the table so the saw is up 2 inches for a 1⅞ piece, and so on. One who has never tried this will be surprised; and still further, in sawing separators and any thin fixtures, a thin wedge, the thickness of saw-cut back of saw works nicely in protecting one from being scratched by the saw as the work leaves it.

Where saws are filed as nearly all common mill-saws are, they do not run nearly as long as they would if there were a bevel on front, inside of the teeth, because that square corner is soon dull, and it very soon goes hard, and the work is rough, because it can not clear itself (something like cleaning putty from a dipper with a blunt instrument, instead of a sharp one with an edge). Doesn't it please you, friend R., to have the work come from the saw so that a stranger will ask you if it hasn't been planed? But, like every thing else, no one can fix the saw every time just alike; perhaps a little too much set, or a tooth may have got sprung out a bit (but usually the stone on side of saw will detect the latter trouble), and often the guage may be too near at either end, which is often the case, and a few trials will fix this. And, by the way, a guage similar to yours in A B C is the best I ever saw, for there is no delay in setting to a hair's breadth, and all worked from one end, it's just splendid when one is in a hurry.

CRYSTALLIZATION OF SYRUP MADE OF GRANULATED SUGAR, ETC.

I see in last GLEANINGS, friend Doolittle has had trouble with feed hardening. I, too, have often seen it recommended to stir the sugar into hot water, and it was complete. But, alas! I have been sadly disappointed. I can not make a safe feed, without boiling it a little at least; and as soon as taken from the fire I stir in a certain amount of tartar, care being taken not to scorch the syrup, or to get it too thick; for if more than about as thick as good ripe honey it will often harden some; but on the other hand, if we feed quite late in the season, of course we must hurry up the sealing process by feeding as thick syrup as possible. I lost two colonies last winter with hardened syrup in the feeder (one right over the cluster too), where it would be as warm as anywhere in the hive; but I got enough of winter feeding, and hope my bees are now ready to pass through the near long winter. They are all in chaff hives, with a wide board slanted against the hive (with end beveled so as to fit close, to turn off water, etc.; and around the whole is a lot of evergreens bound with withes, so no cold winds or snow reaches the inside. The entrances are all open 7 by ⅜ inches, with passage-ways over frames, and considerable packing of cloths and cushions. No snow or rain can reach the entrance, and they are where the snow will cover the whole as soon as it drifts, and I care not how late it remains there.

TOBACCO, AND THE RISING GENERATION.

I tell you, friend R., I am more than rejoiced to read the result of your plan on the tobacco question. What shall be done? Every available course is taken to induce even the little innocent boy to use the shameful poison, and yet temperance societies are common in many places (on the liquor question); but tobacco is passed unnoticed. It seems to me the latter should be as foremost, for the law does not forbid its use, which, unless it does soon, who can tell the result? How often we see a poor broken constitution, and caused only by the use of tobacco (yes, and strong tea), and often a little something else alternately. How often I hear people say they wish they had never seen the vile weed, but they can not leave it off. I don't believe any one ever honestly thought it did him good. Suppose you or I should take some honey as often as we sometimes see one use tobacco, what would they say? "Oh! I should think honey would kill you," would be his thoughts, and yet which is the more poisonous? I know men who look to be strong, and far more able to do a heavy day's work than myself, who say they can not do any thing, their heart troubles them so, but they smoke only from 15 to 20 times a day, and chew the remainder. Now, don't say I am uncharitable, for I am not. I would give every dollar I have if I could stop this one sad state of things, which slowly but surely brings darkness and death among us. This life is short, and only for preparation for a longer and better one; and how sad to think of throwing it away! E. P. CHURCHILL.

No. Auburn, Me., Nov., 1884.

Friend C., we pretty nearly agree with you all through. In regard to circular saws, we use to some extent what is called a planer saw. This makes the lumber as nice as any planer, when in order; but all such arrangements, so far as our experience goes, cut much slower than ordinary rip saws, when filed so as to cut most rapidly.

BEE-NOTES FROM THE BLUE RIDGE.

THE HONEY CROP A FAILURE.

THE honey reports the present season seem to indicate that the honey-flows have, like spring frost, run in streaks—the non-honey streaks showing much the wider breadths. The mountain bee-keepers in this end of the range will have to take seats among the crowd who have been "left." The present season has been one of the poorest that ever visit this region, for making honey.

May opened with the brightest prospects, and colonies filled their brood-chambers with a strong force, and every thing was ready for the surplus. The most advanced colonies commenced storing in the sections and upper-story hives, when June came with rain and clouds. For five weeks this weather continued, the second week in July bringing again sunshine, but cool, unfavoring breezes, and the conditions for honey secretion continued unfavorable the entire season, with only an occasional propitious day. No spot seems yet to have been discovered that is entirely blest by a never-failing harvest for the farmer or bee-keeper.

NON-SWARMING QUEENS.

The value of a non-swarming queen that keeps steadily to business, losing no time in preparations for swarming, I have never, before the present season, seen so strongly exemplified. I have the good fortune to possess one of that class—a dollar queen mailed from the "Home of the Honey-Bees," in the summer of 1882. Her colony showed no symptoms of a desire to swarm in 1883, although favored by an abundant honey-flow from the opening of spring till the middle of August, and gave a large surplus. This season she was in advance of all other colonies in the yard, keeping right on when the surplus arrangement was put on, and when the rain and clouds came had some 40 lbs. of surplus ready to take off, while the most advanced among the other colonies began to cast swarms that had to be fed to sustain them through the best season. While the majority of the colonies made little more than a bare living, this one yielded 80 lbs. of surplus. It seems to me that the much-talked-of "coming bee" will not be the one with fancy stripes, the very prolific, or wonder of gentleness, etc., but the queen least inclined to swarm, whose progeny is intent on putting away honey for a "rainy day." Bees that are ever making preparations to swarm are an unprofitable nuisance.

THE BATTLE OF THE GIANTS.

The discussions between the great masters in bee-keeping, on the subject of clipping queens and hiving swarms, are very interesting, and, I hope I shall be pardoned for adding, sometimes amusing. We who look on feel like clapping friend Doolittle, while admiring the consummate skill with which he parries every thrust and maintains his ground. I sometimes fancy his pure love of method causes him to take unnecessary pains and trouble to achieve his results. In the matter of hiving swarms with a clipped queen, I never could see any necessity for lifting the old hive from its stand and placing the one to receive the returning swarm in its place. Simply place the new hive six or eight inches in front of the old hive; and when the swarm is about all out, throw a piece of burlap or muslin over the old hive, and in a few minutes the swarm, missing their queen, will commence to return and enter the hive prepared for them. Open the cage, and let the queen run in with the bees, when the job is done, and then any disposition can be made of the old colony and swarm desired. I prefer the clipped-queen system most decidedly. This method exacts one condition which must never be neglected. The apiarist must be in or about the yard in the swarming season, with queen-cages in his pockets, or where he can lay his hand on them in an instant. The moment a swarm begins to issue he must be on the spot. The queen will soon make her appearance, when he can place the cage before her, secure and pocket her, place a hive in position, and await the returning swarm. My swarms seldom cluster, but, missing the queen, return in a few minutes. If they do settle in a convenient place, carry the hive and place it on the ground directly beside or under the cluster, take two or three handfuls of bees from the bunch, and with a slight shake drop them at the entrance, when they will commence to crawl in. Uncage the queen, and she will go in with them. Shake the bunch down, or, if on a fence or body of a tree, brush them down, and the column will take up its march for the entrance. If the cluster is sprinkled a little before commencing operations they will be less inclined to fly. I prefer the naked hand for lifting bees, to a ladle. If you use one hand—not the double hand—keep the fingers a little apart so as not to pinch the bees, and work gently, there is no danger of stings.

Some who object to clipping queens allege that they are very liable to be lost. My experience is, that they go immediately back into the hive when they find they can't fly with the swarm. If the ground is clear in front of the hive, or a wide board connecting with the entrance, I believe they will almost invariably raturn. In case the queen has not issued, or returns before she is secured, she can be captured by opening the hive, which, being depleted of bees, she is readily found. Lift the frame she is on, and place it in the hive prepared for the swarm. Look sharp for queen-cells, and pinch any off that may be on the frame containing the queen, or the swarm may issue again. There is no cage better or more convenient for capturing and holding the queen than one of your mailing-cages. Reverse the tin slide so as to open a part of the large hole, place the open cage in front of the queen, turn her head toward the entrance with a finger, and she will go in; push the tin slide down, and pocket your queen.

INTRODUCING QUEENS.

On introducing queens, Alley is very emphatic in advising that the colony remain three days queenless. As he states no reason for this I presumed he had discovered the fact without the cause. Doolittle, with his remarkable power of close observation, states in one of his articles the facts, and also gives the reason. In three days after the colony has become queenless, queen-cells are well advanced, and the bees are expecting a new queen; the young queen appearing among them is accepted as the consummation of their hopes, and the cells, no longer needed, are destroyed. This, in short, seems to be the simple natural reason. The colony is looking for a new sovereign, and accepts the first that appears. Why not hold queens in a safe place till the colony to be requeened is prepared in its own natural way for the reception, then let the queen run in? E. E. EWING.

Highlands, N. C.

A SAD STORY OF MANY MISHAPS.

ILLUSTRATING HOW MUCH TROUBLE A BEGINNER IN BEE CULTURE MAY RUN INTO.

I FEAR you will find room for this among "Reports Discouraging." Though there can be nothing very encouraging about it, yet I am not discouraged. When I think of the old adage, "A bad beginning makes a good ending," I think possibly I may find it so in my case.

In the spring I had four swarms of black bees in old box hives. I moved them ten miles, to where I now live. I had the entrance stopped, but the cap came off from one (I thought the caps were all fastened down); and as the bees had been jolted pretty severely, their rage knew no bounds. They stung me till I was almost frantic. I kept working, however, till I got the cap back and fastened, and had but little trouble from there home. I soon after transferred them into frame hives. I increased, both by dividing and natural swarming, to ten colonies, and one swarm absconded. They were all pretty strong colonies too, with nice straight combs. I had to leave home for one week in June. When I came back I found one of my nice colonies robbed and destroyed by thieves. As my family and myself are one and the same, I concluded to move them to my aunt's, about one mile, where there would be some one to watch them when I was gone. Although the weather was so warm, I thought it better to risk the heat than the thieves. Accordingly I stopped the entrance one night, borrowed my aunt's team, and a spring wagon from a neighbor, and started down very early next morning. As I was setting in the second hive, the bed on which I rested it sprung a little, and down came the hive, knocking the top off, and pouring out thousands of bees. I need not say they stung, in less time than it takes to write it. They covered both horses and myself. I nearly lost all presence of mind, but had enough left to get the horses loose from the wagon, and plunge headlong into a thick mat of brush.

After lying in the brush until the bees left me I crawled out, ran to the house, got my veil and overcoat, and came back to rescue the horses, one of which was nearly stung to death. I unharnessed them, and started for auntie's, entirely forgetting that the other hives were stopped up, neither did I think of it till about noon. It is hardly necessary to add, that I found the combs all melted down, and about one-third of my bees smothered. For once in my life I was nearly discouraged with bees; but when I came to study about it rationally I could plainly see it all came from carelessness; so I took a good lesson from it, and resolved that I would never be so careless any more. I now have three strong swarms, which is one less than I started out with in the spring. I got probably 30 lbs. of honey. You will doubtless laugh when I tell you that auntie says, "There are too many moths in Texas for bees to do any good." She also says lumps of alum placed where ants bother will drive them away.

Burnet, Texas, Nov. 14, 1884. C. W. HARDY.

Friend H., yours is truly a sad story; but there are several encouraging morals to be gathered from it. In the first place, it is very unwise to locate bees off alone by themselves, near no dwelling, or it is unsafe to leave them near a dwelling when the people are away for a week or two, as in your case. No doubt, in many neighborhoods they would be undisturbed; but it is a sad fact, that keeps fastening itself on us, that in a great many neighborhoods in our land of liberty there are remnants still of heathenism, and the old savage nature. If the thief who stole your honey could see this, and know the trouble he caused, is it possible he could go over it without feelings of sorrow and penitence? Another moral is, beware how you fasten bees in their hives, especially in warm weather. This is also a very unsafe thing to do. Moral No. 3 is, when you are handling bees, especially loading them into vehicles, do not leave any possible chance for slipping and tumbling. Better take the time to get somebody to come and help you handle them. If no one is at hand, and you think you *must* take some risk, unhitch your horses, and place them at a safe distance. Load up your bees, and get every thing all right as you want it; then hitch on your team, and go on. I sincerely hope you will profit by this experience, my young friend; for although you do not say you are young, I can not help thinking you are, from the way in which you manage. If I were you, I would get some older person to advise a little. I go for advice to some one else, every little while. In my recent farming operations I went to Neighbor H., or some older man than he is, quite often, and plied them with many questions in regard to things they have had more experience with than I. I think most of us would get along better in this world if we were more in the habit of asking advice, and talking over our affairs with those we have had reason to feel are competent to guide us, and willing to do so. And so "Auntie" thinks it was the moths that caused your bad luck. Well, well; what more won't the poor moths have to bear on their shoulders? I wonder what there is that is not good for "*ants*."

BEE CULTURE IN WEST VIRGINIA, AND SOME OTHER SUBJECTS.

ALSO SOME HINTS TO THOSE GOING INTO BEE CULTURE.

SCIENTIFIC bee culture in West Virginia is in its infancy — hardly out of the cradle — and needs very careful nursing from loving parents. We speak comparatively; while our sister States north, east, west, and south, are undoubtedly making rapid strides in this important branch of rural economy, our State rests upon her oars, and says, "It is enough; we have fought a good fight; we will keep our box hives"— not yet having learned that bee-keeping under modern management will fully supply the place of their hard-earned sorghum, at the expense of less time and labor.

We have visited a bee-man in an upper county, who, having set 2 uprights, suspended his box hives by means of wire at an elevation of three feet, to protect them from "insects and varmints," as he expressed it—a "*high* protectionist," verily! On attempting to elucidate to him something of the natural history of the honey-bee, and the perfect workings of the improved "Langstroth," he seemed to think we were poking fun at him, and was surprised that we did not fall headlong in love with his beautiful and systematic apiary. The Golden beehive man, who visited us, had not yet reached him to sell him a two-dollar hive for "only ten dollars!" And his bees! no Holy-Lands, Carniolans, or Cyprians there; but, instead, they seemed to embody the concentrated blackness of the race for centuries past, as it were. We dried our tears, and departed in mourning for the conceit of "some people." And the adieu we bade him was not *au revoir!*

Now, friend Root, how can we best get this subject before our people, that they may be awakened to their interests? We are interested, not so greatly that they may be able to sell honey for 7 cents per lb. (for we rather incline to friend Doolittle), as that they can thus increase the products of the farm. The number of live bee-men in our State, from the best information we can gather, is thirteen—a small showing compared to other States (or should we call any of them alive, that, having the capital and ability, do not sow literature, write newspaper articles, establish a supply-factory, etc.?) Readers in West Virginia, shall we lie supinely upon our backs till literally *carried out* by the progressiveness of our neighbors? See the bee-keepers' associations all around us—this splendid means of intercommunication; will you not give your aid in establishing one in our hopeful little State?

REVERSIBLE FRAMES.

Our most matured apiarists, or bee-fathers, seem to be greatly at variance upon the question of reversible frames; and they indeed need to act upon it circumspectly. We say to you, *little children*, that, with your limited stock and more limited experience, you can not afford to meddle with them in their present stage of development; be careful, then, how you leave the well-beaten paths of our fathers, till you become older; for from this cause, "many may became weak" among you. Fall into a reversible frame in your infancy, the regaining of your equilibrium will be troublesome. Then, after many days, we *may* have, oh so much fun! "comparing notes" with the upside-down advocate.

FOREIGN QUEENS.

If you have surplus circulating medium, buy queens across the ocean, just for the novelty of the thing; but if you are a hard-working economist, whose policy it is to place every dollar where it will bring the fullest returns, and do not expect to make a specialty of pure-queen rearing for market, and would have a race of bees that will emphatically "hold its own," simply place two or three golden rings on your modest little blacks, and lose no sleep because of your neighbor having a better honey-gatherer, moth-slayer, or egg-layer, than yourself.

WINTERING.

You who are not above 38° or 40° north should not worry over temperature, ventilation, humidity, etc. (such interesting questions to our way-north friends). See that November finds your colonies strong and healthy, with full combs of sealed honey in hives elevated upon four posts, 10 in. from the damp cold ground, and, our word for it, you will have little cause to complain of dysentery, spring dwindling, with good entrance protection, etc.

BIG REPORTS.

We would not have you become discouraged because you are not averaging nearly 600 lbs. from so many "starving colonies in the spring;" be contented, if you get up to only 100 lbs., and that with your colonies well supplied in the spring, and the very best attention you can give them. Remember happiness lies in contentment. Either the rivers of California and Florida flow honey, or our bee-journals are sadly in need of a department for our friends who are "liable to err in statements." Be contented and be happy. JNO. C. CAPEHART.

St. Albans, W. Va., Nov. 7, 1884.

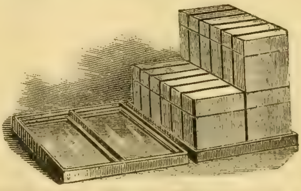
As a rule, we think your counsel wise, friend C.; but, is there not a shade of uncharitableness in your closing remark? The great yields that have been reported in California and Florida are well authenticated by whole neighborhoods, even if the writers were not, the greater part of them at least, of old and established reputation.—It may be well to place your hive 10 inches from the ground in your State, but I do not believe I would do it here. There are many reasons for preferring the hives not over 4 inches above the ordinary surface of the ground, and I have never discovered a bad effect from dampness. We would support the bottom-board on four half-bricks, and this will bring the bottom of the hive at least four inches from the ground. To keep the cold winds from blowing under, we bank with cinders and white sand. This also keeps toads from locating under the hive. If hives are set as high as 10 inches, a very broad alighting-board would be needed to catch heavily laden bees during a heavy yield of honey. I have experimented pretty thoroughly in this matter.

FRIEND SMITH'S HONEY-RACK.

SOMETHING A LITTLE DIFFERENT, ANY WAY, IF NOT A LITTLE BETTER.

I SEND you to-day two of my comb-honey racks. No. 1, as I use them on my hives, 1½ story, using two racks per hive. No. 2, as I use them in the Simplicity hives; if 10-frame hives, I make them long enough to reach clear across inside of hive, using two racks per hive. J. R. Stearns, Blissfield, Mich., has had 300 of my racks in use for two years. I should be pleased to hear your opinion of them soon. I should also like to have you give them a trial next season. JOHN T. SMITH.

Bellevue, Mich., Nov., 1884.



A HONEY-RACK, TWO OF WHICH COVER A SIMPLICITY HIVE.

The cut and the remarks above will enable most of the friends to understand the arrangement, without much explanation. The rack is simply two little trays, of such a size that, sitting side by side, they just fill the top of the hive, resting on top of the frames. With the Simplicity hive, the cover to go over them would have to be made of ⅜ stuff, or else use a strip of wood to fill out at the ends of the frames where the metal corners come.

To make the rack, you get out stuff ⅝ x ⅞; this forms the frame. Running lengthwise with the middle of the frame is a piece got out about ⅞ square. Now a rabbet is made clear around on the outside frame, and also on each side of the center strip, and this rabbet is ⅜ x ½ inch. If your dimensions are just right, the regular Simplicity sections will drop down into these rabbets. and remain supported just ⅜, or the regular bee-space from the top of the frame. Of course, the bees have access to the under side of the sections, which feature I do not like; but, of course, the crates could be made with a bottom having bee-spaces to match the sections. Each case holds 12 Simplicity sections, full 2 inches wide; or by making them a little narrower than 2 inches, each case would hold 14 (7 on a side). The open ends of the sections are closed by a sheet of glass or a thin strip of wood. as you prefer, and a rubber band holds all together while on the hive, in the manner shown in the cut. This crate, of course, would not be sufficient to ship honey in; but where you take it off from your hives, and deliver it yourself right to the grocery, to be retailed, it would do nicely. The sections would be just as clean as they left the saw, for no bee ever touches the outside, except the bottom-bars, as before mentioned.

Such a crate or rack could, of course, be made for a very small amount of money. Friend Smith does not tell us his price, but there would be no trouble in making them for 5 cts. each, in the flat. With his permission I will mail a sample in the flat, for the above price, postage added. Postage on a single crate would be 7 cts. more. For putting two tiers over the hive, you use open-top sections, and set another tier right over it, the upper tier having glass or wood at each end, all being held together by a rubber band. The rubber band would hold them sufficiently so that when filled by the bees they could be readily handled, six in a strip. If you want to use separators, they are simply pieces of tin, 3½ inches wide by 9½ inches long, resting on the upper edge of the rack. These separators are cheaply made and cheaply put in place; but when it comes to using separators in the upper tier, it is not so easily managed. Some strips of board 4¼ inches wide would have to be put on each outside, for separators to rest on. Of course, double the number of separators would be required, because they are only half the length of those in our regular combined crate.

The cheapness of this arrangement is one great recommendation to it. Our combined crate holds 28 sections, and costs. without glass, 15 cts. Two of these racks, holding 24 sections, cost 10 cts., at the price I have estimated. But our crate has a board over the ends of the sections, while with these racks, boards must be furnished, or glass. Ours also prevents bees from getting to the bottoms of the sections, while friend Smith's rack does not. A great many, however, including friends Heddon and Hutchinson, say they do not want any thing under the bottoms of the sections. If we made two bee-spaces, and interposed a honey-board, we should have something very near like Heddon's arrangement. I think it will be a good idea to adopt a few of these, to try them, any way; but I wouldn't go into any new thing largely until I was sure it pleased me. Many of the friends will say, very likely, "Your arrangement is nothing new;" and yet friend Smith has a way of putting them together that makes it a little cheaper than any thing I remember to have seen heretofore. A good many years ago we used pretty much the same thing, with folded tins to support the sections, and a folded tin through the center. Several others have tacked tin or sheet iron to the under side of the crate to catch the sections. The above arrangement is, I think, the simplest and cheapest. The loose pieces required to close the ends of the sections, as well as tinkering with rubber bands, I am afraid a good many will find a nuisance, and perhaps that is the reason why so many such racks have been tried and abandoned—because a loose board or glass must be used to close the open ends.

CARP AND CARP-PONDS.

SOME SUGGESTIONS THAT WILL DOUBTLESS BE OF MUCH VALUE TO MANY OF US.

FRIEND ROOT:—In view of the increasing interest in carp culture, and the fact that I have not noticed any thing on the subject in the columns of your valuable paper, except your reference in the last issue, to the fact that you were then constructing a pond, I herewith offer a few suggestions on the construction of carp-ponds, and their advantages. If my article does no other good than to assist in awakening an interest in this important subject it will not have been in vain. My knowledge of the subject is based upon my experience in constructing a pond on my place, and considerable investigation and study on the subject before and since.

Any one having a never-failing spring or stream of water has the chief requisite of a carp-pond. A location that is considerably lower than the source of your stream should be chosen, if possible, in which case the pond can be made principally by building a levee around the site. If the place where you wish to make the pond is but little lower than your spring, or if your stream has but little fall, the pond will have to be made by excavating. Besides being much more cheaply constructed, the former method is much the better, as the soil makes a better bed for a carp-pond than where the surface has been excavated. German carp are largely vegetarian in their habits (though not entirely so, I believe, as some writers would have us think), and the surface soil is more productive of vegetation than where it has been removed. There are frequently peculiarly favorable locations where a pond covering considerable surface—sometimes several acres—can be made by building a comparatively short levee, and thus cutting off a stream. If, however, the stream does not naturally run through such a location it can be diverted from its original course, or a supply of water led from it to the pond. The latter would be preferable, as one would be more likely to be able to control the amount of water flowing into the pond by this means. During breeding season, better results will be obtained if the supply of water can be so adjusted as to only compensate for the evaporation, the pond being kept full without any overflow whatever. This can not always be done where one levees across a ravine, and the entire stream must pass through the pond. It is frequently desirable to drain the pond for the purpose of inspecting and taking out fish, destroying turtles, etc. In our neighborhood several of these pond-drainings have occurred, to which quite a number of guests were invited, and all have expressed themselves as very favorably impressed with this new industry. In order to facilitate draining the pond, the bottom should be made to slope toward one or more channels, which should have an outlet through the levee by means of a pipe. The fish being driven to the channel, can be much more readily examined than they could if no such arrangement were provided. The pipe for draining the pond should have a screen placed on the inner end to prevent the escape of the fish. It can be stopped by driving a close-fitting plug into the inner end. This plug can be driven out when the pond is full, by means of a pole from the outer end of the pipe. The screen will have to be arranged so that this plug will not interfere with it. For this outlet, an old pump-pipe will answer quite well if your pond is not large. For a very large quantity of water, a larger pipe will be found better, as, with a small pipe, too much time would be consumed in draining the pond. The size of my pond is about 30 x 120 ft., and the water was almost an entire day in running out through a 4-inch pump-pipe. A pipe should also be provided for the outlet of the surplus water; and where quite a large amount of surface water is liable to flow into the pond, a shoot of about six inches in depth and four to ten feet in width—depending upon the volume of water likely to pass over it. Where the pond is free from surface water the latter will not likely be needed, if a pretty good sized pipe be used for the surplus water, which should in no case be too close to the top of the levee—about 12 to 18 in. being the distance for it. The shoot may be provided with a wire screen on the side next to the water, to prevent the escape of fish, though it is said that during a disturbance of the water they remain at the bottom.

A pond with an uneven shore-line will accommodate more fish than a square one with straight shores of the same size, as it furnishes more feeding-ground. Hence, bays, capes, isthmuses, and islands, where they can be made, not only add to the beauty of a carp-pond, but add to its value.

Deep water must be provided for the fish to occupy during winter, but the pond should not be uniformly deep. A small portion of it 4½ to 5 ft. deep, with the remainder much more shallow, and a portion quite shallow, is in accordance with authorities on the subject. Too much deep water is said to retard hatching, for the reason that the temperature would be kept too low.

Besides its primary object of "carp-pond," it may have several other uses. Those of us who live in the north have an "ice-pond" as well as carp-pond. The advantage of having ice at your door, as it were, should not be overlooked. In these days of cheap lumber almost any one can have an ice-house. Indeed, one could be made of rails and straw. Besides the above uses, the carp-pond in many localities will be found of advantage as affording an abundance of stock water, for it will be observed that stock prefer to drink out of a pond or pool.

There is yet another *possible* advantage, though I have never seen the idea advanced. We are all aware that large bodies of water so equalize the temperature as to insure a good crop of peaches and other fruits when these fruits would surely winter-kill if it were not for the water. Now, might not these small bodies of water exercise the same influence, to a less degree, of course, and thus at some critical time give us a crop of some of the more tender fruits that we would not otherwise obtain?

The value of a fish-pond to a farmer, I should not attempt to estimate; but an enthusiastic carp culturist told me that my farm was worth $1000 more by reason of there being a good location for a fish-pond on it than it would otherwise be.

The carp-pond will add to the beauty of almost any place, and will afford boating and skating for those who enjoy such sports.

At another time I may give you some information on the "bee interest" in this section.

Mooresville, Ind., Nov. 27, 1884. JOHN E. EVES.

Friend E., we are very much obliged indeed for your excellent article, and shall be glad to hear from you further. Below we give an extract from the *Ohio Farmer* of Nov. 29, which will doubtless greatly interest our Ohio readers, if not those in other States.

GERMAN CARP.

We have received a letter from Henry Douglas, superintendent of the fish hatchery at Sandusky, O., stating that 20 German carp will be furnished to each individual who owns a pond in this State, and applies for the fish. The party receiving the fish must pay express charges and cost of telegraph message on delivery. Order from Mr. Douglas, as above, and give the nearest express office you want them shipped to. The following hints are furnished by the Ohio Fish Commission, on their printed letter head:

When fish are received, deposit them as soon as possible. Great pains should be taken in building carp-ponds, to have them deep enough in the center to prevent them freezing to the bottom in the coldest winter. The carp is a hibernating fish, and requires a soft muck or muddy bottom, as it burrows in the mud in the deeper portions through the winter. Have the overflow of your pond so arranged with a wire screen as to prevent fish being carried out in flood time. The carp is partial to stagnant water, hence thrives best in ponds. It is well to cut holes in the ice in winter to give the fish air. To be successful in carp raising, *no other fish* should be in the pond, as they devour the spawn and young carp. Carp spawn in May and June, according to the temperature of the water; and at this time they require a good deal of food to prevent them from eating their own spawn, which they will surely do if not properly fed during the spawning season. Keep turtles, water-snakes, frogs, and muskrats out of the pond; all are very destructive of the spawn and young fish. The carp is a domestic fish, eats cooked food of almost all kinds, vegetables, the refuse of the table, etc. It is a hearty eater, and in spawning time should be fed at least three times daily. During the rest of spring, summer, and fall, twice a day. The carp grows with wonderful rapidity, if well cared for the first year attaining a weight of three pounds, and at the end of third year eight pounds. It is also remarkably prolific, spawning, according to climate and care, at one, two, and three years, a five-year-old female depositing sometimes a half-million eggs.

I have not learned whether other States have similar arrangements for sending carp free of charge to those having ponds, but I presume that Ohio is not, of course, an exception in this respect. Neighbor H. and myself sent for 20 carp each as soon as the notice came to hand, and it will be the means of getting the carp well started all over the State of Ohio, without doubt. Neighbor H. has a pond that was excavated for watering cattle. Fish thrive in it, for he has kept what we boys used to call "bull heads" in a similar pond for several years. Our pond is just about the size of the one friend E. mentions. Neighbor H.'s is about twice as large. It seems to me, if I were going to allow stock to drink from such a pond, I should want some arrangement that would keep them from wading in it and depositing filth. Perhaps some of our friends who have experience in this matter can tell us how to manage it. Peach-trees around a carp-pond would be a delightful feature. I wonder if the carp would fat on ripe peaches, providing they were kind enough to drop in the water; and will planting peach-trees along the margin of a body of water protect them from the frost? Perhaps we are branching out pretty well for a bee-journal; but probably we shall get around to bees eventually. I think they sometimes get honey from peach-trees, so you see we are right in line after all. Never mind; fish are wholesome, and the culture of them is honest and praiseworthy. "Milk and honey" has become proverbial. After Jesus' resurrection he came among his disciples and asked them if they had any meat. In answer they gave him a piece of broiled fish, and some honey in the comb. See Luke 24:41, 42.

REPORTS ENCOURAGING.

50 LBS. PER COLONY, EVEN DURING THIS POOR SEASON; LEAKY HONEY-CANS.

OUR report for season of 1884 is much the same as many others'. Locust-bloom yielded an abundance of honey; clover but very little, basswood almost an entire failure. But although it was very dry, our bees gathered enough from buckwheat and other fall flowers to winter on, besides giving us 180 lbs. surplus. Our whole amount of surplus honey from 30 colonies, run for extracted honey, was 1571 lbs., making an average of 50 lbs. to the hive; last year's average was 80 lbs. to the hive. Among the many suggestions to the juveniles to make themselves useful, I would suggest that at least one in each bee-keeper's family would learn the tinner's trade; so many of the 25-lb. cans we received from you leak that it would be quite an item to have them soldered at home, as we are four miles from a tinner.

MRS. BELL L. DUNCAN.

Black Lick, Pa., Dec. 1, 1884.

Thank you for your good report, my friend, and also for the kind way in which you take us to task for our leaky tinware. By all means, have a tinner in every bee-keeper's family, but, at the same time, buy your tinware of some one who does not make it so bad as to always need tinkering. That is the advice I shall stick to, even if it does cut off our own bread and butter. Moreover, if you or anybody else will tell us where they are out of pocket by getting tinware of us that leaks, I will try to pay it, even if it takes a good deal of money. We will look up the 25-lb. cans you speak of, and sift the matter to the very bottom. Every article made in our establishment is now tested with hot water, and the hands who test them have been talked to so much I hardly believe they will miss another piece. And while I am on this subject, I might mention that a process of making tinware is just now coming into use, whereby each article is put together by machinery which locks it so securely that it will hardly be likely to leak a drop before it is soldered; but for additional security, and to make the article stronger, every joint is soldered, or, better still, the whole article is dipped in melted tin. Since Aug. 1 we have sold 5000 of our nested honey-pails; and if any one of the 5000 leaks a drop I should like to know it. Our tinware will soon all be made on this plan.

A GOOD REPORT FROM THE PROVINCE OF QUEBEC, AND MY REPORT FOR 1884.

The bee business in this province has wonderfully progressed within the last three of four years. Previous to that time little was known of movable-frame hives; and no one, as far as I know, was extensively engaged in the business. Now there are numbers in this part of the province who are quite extensively engaged in bee-keeping, and are making it a paying business. One man here last year took 4800 lbs. from 53 colonies, and increased to 93; but this year, from 115 he has taken only about 3000. This has been a very poor season for honey here. Bees did well through May and June; but in July they did nothing, as it rained about every day. Basswood blossomed about the 20th, but the bees gathered honey from it only 4 or 5 days. I commenced the season with 9 swarms, all in box hives, 4 weak and 5 strong ones. I transferred them into the Jones hives, and increased to 24, and took 400 lbs. of honey; besides transferring my own, I have transferred 22 this summer, making 31 in all, for other parties, and with good success; and to the A B C book am I indebted for instructions, as I have never yet seen any one transfer bees but myself. I practiced the method advocated by Mr. Root, and also the one by Mr. Doolittle; the latter's method I like better. I bought and read, the past summer, "Cook's Manual," and can truthfully say that the A B C is by far the better book, D. A. Jones to the contrary notwithstanding.

J. RAYMOND BULL.

Knowlton, Quebec, Can.

FROM 2 TO 4, AND 125 LBS. OF COMB HONEY.

I send my report of bee culture for 1884. I started with 2 stands; increased to 4 by natural swarming, and got 125 lbs. of comb honey—white clover and buckwheat. Bees are all in good condition for winter. I winter on the summer stands, with no protection, except a mat filled with dry maple leaves set over the frames.

We are in the midst of a big revival; many souls are flocking home to Christ. Pray for us, that there may not be one left to advocate the cause of the wicked one.

WM. O. HEIVLY.

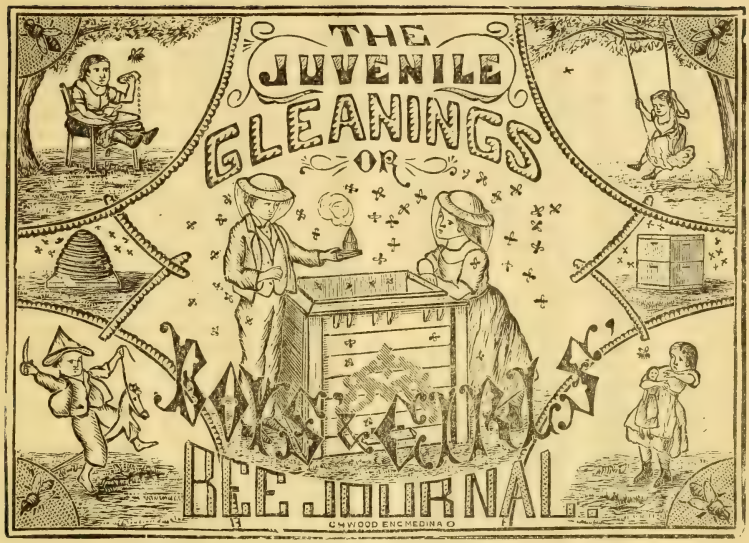
Friend H., the last part of your report is by all odds the most encouraging part of it. Most gladly will I heed your request, and may the good work go on.

FROM 10 TO 13, AND 200 LBS. OF COMB HONEY.

My report for 1884 is 10 hives, spring count; increase, 3 hives; pounds of comb honey, 200 lbs Season very poor, cold, and wet. Bees in good condition to winter.

JAS. H. BOSWORTH,

Taunton, Mass., Nov. 17, 1884.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

WHAT CONSTITUTES GREATNESS?

Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal it shall be measured to you again.—LUKE, 6:38.

DEAR FRIENDS, did it ever occur to you that you are possibly living side by side with those destined to be great men, and that the great men of the age may be quietly plodding along at your next-door neighbor's? If not, a little reflection may tell you it is so. When Garfield was elected President an acquaintance remarked, "I used to know him quite well when a boy." One of the girls who works at the books said, "I used to go to school to him," and we hear such things often. What constitutes greatness? Well, I can tell you some things that help a boy to become great. I guess the talk this morning will be a talk to boys; but maybe it will do for girls too. See what you think. Last evening I listened to a grand talk from the Rev. T. F. Hildreth, of Norwalk, Ohio. He told us about a pleasure-trip he made to California; and I want to block out just one little point in the narrative. Somewhere in the Rocky Mountains, where they had to change cars, he stepped into a sleeping-car just as one of his fellow-travelers called him by name. Immediately afterward a voice came from behind the curtains, saying,—

"Is your name Hildreth?"

"Yes, sir, that is my name."

"T. F. Hildreth?"

"Yes, sir, that is what they call me."

At this instant the curtains parted, and a great burly six-footer, or a little more than six feet, to be accurate, stepped forth and confronted the preacher. As our friend had been considerably overawed already by the lofty peaks and yawning chasms of the wild scenery around him he began to be a little frightened, wondering if it were not some denizen of these savage wilds that was going to pounce down upon him and eat him up, or do something awful. But he screwed up courage enough to say back again, "What is your name?"

"My name is Stubbs; but I suppose you don't know me."

The preacher was obliged to admit that he did not know Mr. Stubbs.

"Well, if you don't, you certainly remember Johnnie Stubbs who sawed that hickory wood for you."

"Johnnie Stubbs!" Sure enough, he did remember Johnnie Stubbs; and the orator asked us to please allow him to switch off on a side track, leaving, for the time being, the little preacher standing before the stalwart railroad man in his shirt-sleeves, just as he got up.

Years ago, down in Ashland Co., O., in some little obscure town the preacher had a Sunday-school class, and it was coming on Christmas, just as it is now, and he talked to the boys in the class about it, what they should do on Christmas. "I will tell you, boys," said he; "we will just go to work, and each one of us earn all the money we can; and just before Christmas we will divide it into halves. One half shall go to the Juvenile Missionary Society, to do good somewhere away off; and the other half we will keep to do good to ourselves, just the best we know how." And he worked the thing up until some of the boys became quite enthusiastic about lending to the Lord. They perhaps had in mind this verse:

> He that hath pity upon the poor, lendeth unto the Lord; and that which he hath given will he pay him again.—PROV. 19:17.

Monday morning, almost before our Sunday-school teacher had time to get up, a timid knock came to the door. When he opened it one of his Sunday-school boys stood there with a buck-saw and a saw-horse.

"Why, Johnnie, what are you going to do?" said his teacher.

"Why, you said yesterday we were to go to work and earn all the money we could before Christmas."

"Yes, so I did; but, what then?"

"Well, you see I am going to do it, and I want to get some wood to saw, and so I thought I would come to you, and see if you hadn't some you wanted sawed."

The preacher thought awhile, and it occurred to him he had some wood he wanted sawed. He wanted it sawed "bad" too, for it was seasoned hickory, and it had waited long for some one who had courage enough to tackle it. He looked at the boy, and concluded he wouldn't make much headway on that hickory wood, but decided to let him try it.

"How much wood do you want to saw, Johnnie?"

"Why, sir, I should like to saw about 25 cents' worth."

He then told Johnnie to go ahead, and, to save time, extended him a quarter, with the remark,—

"There, Johnnie, is the 25 cents. You go and saw about as much wood as you think will be worth 25 cents, and it will be all right."

The minister went back to his sermon, or whatever else he was at work on. By the way, I wonder if ministers commence writing their sermons Monday morning. Well, Johnnie was forgotten for the time, until the minister went to look to see how much wood he had cut for the 25 cents. To his astonishment he found that Johnnie had given a tiptop "value received" for the 25 cents; in fact, he had sawed more wood for the small sum of money than probably any man that could have been found would be willing to do. But this little act indicated the man. It said in plain words, that Johnnie was going to go through life, giving "full value" for whatever he received; and I tell you, my friends, this comes pretty near summing it all up—what constitutes greatness?

You see, Johnnie was in the habit of doing a good job on whatever he undertook. Instead of being selfish, and studying how he could get his pay with the least exertion and the smallest equivalent, he was a whole-souled boy who loved to give good measure, even if he did not know of the promises in the little text at the head of our article.

Johnnie was on hand bright and happy at the Sunday-school, on the Sunday before Christmas. Half of the quarter was to go to the mission fund, and the other half he was to have himself. His teacher concluded that Johnnie would be a good hand to take up the contribution. Johnnie took the hat, and started. He didn't forget, however, as ushers sometimes do, to put in his own contribution first; no, sir. Johnnie was not that sort of a boy; and as he looked at the quarter, and meditated how he should manage it, a good impulse came over him, and he bowled the whole quarter right square into the hat, as an example for the rest, and did his work with a happy smile on his face. The Methodist preacher was called away, as Methodist preachers often are, you know, and Johnnie was forgotten. Years passed; and to recruit his failing health the preacher took his trip to California, and there you have them, boys, both of them—the little, thin, sickly Methodist preacher, and the great brawny Johnnie Stubbs.

"But, Johnnie, what does this mean? what are you doing here?"

"What am I doing here? Why, I am General Freight Agent of the Union Pacific Railway."

The minister stared at him in surprise. Now, our friend *is* a great man and a wonderful orator (I do not mean he is great like Johnnie), but he has a great big heart, and a soul that is capable of spreading not only from Atlantic to Pacific, but one that can not be confined entirely within the limits of the Methodist denomination, for that matter. He loves God and he loves humanity, and I know that he loves Johnnie. But for all that he is a practical man, and no doubt he has had a tussle, as Methodist ministers do once in a great while, in making both ends meet, and so the financial part came up before him, and he talked it right out.

"Johnnie, how much money do they pay you? What salary do you get for taking care of this great business?"

Johnnie's reply was characteristic of the boy of old—very quiet and honest.

"Oh! they give me $3000 this year, and they say if I tend to things well, and take to the business, they will make it $5000 next year."

The preacher opened his mouth and eyes in astonishment. Then he clapped his hand on Johnnie's big shoulders, and replied, "Now, Johnnie Stubbs, that is just good enough for you. I do not pity you a bit."

Well, Johnnie took his old Sunday-school teacher along through the train; and when he expressed a wish to ride on the engine with the engineer, so he could see things, you know, he just put him alongside of the engineer, and of course he enjoyed it. What do you suppose Mr. Stubbs' salary is now, for the place he occupies? Why, boys, it is $10,000 a year; and he never would have had more than the wages of common men if he hadn't formed that disposition in early life, to give *full value* for whatever he received. Strange, is it not, that the world can not realize nor comprehend nor understand that no one ever gets to be well off by scrimping, and being mean and small and stingy, especially when somebody trusts to his honor to do what is right. May God help us to love him more, and love "our neighbors" more.

Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal it shall be measured to you again.—LUKE, 6:38.

MAX, THE GERMAN BAKER-BOY.

THE BOY WHO WANTED WORK.

LAST April, Miss Clara Barton, the President of the American Red-Cross Society, chartered a steamer at St. Louis and loaded it with hay, oats, corn, meat, coffee, clothing, and medicine, and went down the Mississippi to give aid to the flood-sufferers; and as she is an old friend of mine she kindly invited me to accompany her, which I did. At Vicksburg a young German boy about sixteen years old came on board the *Mattie Belle*, and begged a passage to some point where he might find work. Miss Barton took him, and in three weeks' time changed him from a shabby, furtive-looking, dull boy, into a bright, active, open-faced lad who was good to look at. Max was a baker by trade, but had been out of work for some time, and he was, of course, out of money. He had been only nine months in this country, and his clothes were the same that he brought from the fatherland, and when I first saw him he had a downcast look, as if he had been abused, and expected to be again. He had long hair, and a little down here and there on his face, and he wore large white linen collars, turned back in sailor style; and he sat all day looking out on the muddy waters of the Mississippi, not speaking to any one unless spoken to. He ate at the captain's table, and tried to eat as little, and take up as little room as possible.

The next morning we were unpacking boxes of clothing, and Miss Barton went to Max and asked him to help; and you should have seen him smile and go at the work. He was strong, and he lifted barrels and boxes as if it were child's play. He opened and nailed boxes, he put up packages of tea, coffee, and sugar; he folded and packed away clothing as neatly as any lady on the boat could do it, and he was never tired; and he was so willing that he soon became a favorite with every one on board; and it was Max here, and Max there, and Max everywhere. He looked for work in every city where we stopped, but found it not; and on his return to the boat we always greeted him with a smile, and set him to work. He had his hair cut in lawn-mower style, and shaved the down off his face. He had a new business suit that fitted him well, and he wore standing collars, and he held up his head, and looked every one frankly in the face, and *smiled*. Miss Barton says that kindness never hurt any one yet, and I know it was the making of Max.

Vermont, Ill. MAHALA B. CHADDOCK.

Why, Mrs. C., you haven't told us where Max is now, nor what became of him. It seems to me you chopped off your story in the wrong place. If you don't know what became of him, why didn't you tell us that? I believe it is characteristic of the German people, that they go to work in just the way you say Max did. We have quite a number here who came to work for us just as they landed from Germany, not being able to talk English; and that clever way in which they take hold of whatever is to be done, combining strength with care and pains, has often surprised me. It seems a sad thing, that such should be without a place to work when there are so many others who have comparatively good places who do not half improve their opportunities. May God bless you, dear Max, wherever you are, and every one of that class of your countrymen of which you are a type. From what I have seen of those right from the fatherland, I am much inclined to think that I should dearly love Germany. The careful training they give their children, in making themselves useful in all the little duties of life, is truly commendable, and I feel sad, sometimes, to think how much our America is behind and lacking in this very respect.

WHAT DO THE WINDS SAY?

SOMETHING FROM OLD BOREAS AND THE REST OF THEM.

DO you hear them this autumn? The wild winds tell us strange tales as they come sweeping past us, of things more wonderful than any fairy-stories ever invented. Listen to the cold north wind as he comes blustering by.

"I come," he says, "from the icy North; there is my home. Amid eternal snows have I built my palace of ice, carved by the frost-spirits in the most beautiful manner. The northern lights play around it, illuminating it with an unearthly radiance. Neither sun nor moon ever shines upon it. Only the pale fitful gleams of the aurora borealis hover over it. There I live with my beautiful bride, the Snow Queen. But often I leave my icicle palace, and visit distant climes, where, I am sorry to say, I am a most unwelcome visitor; for I spread desolation wherever I happen to go, freezing the lakes and rivers, chilling the flowers so that they droop and die, and doing, I am afraid, more harm than good. No mortal man ever saw my home, and those who have endeavored to reach it have perished in the attempt."

So speaks the north wind. Now listen to the west wind. He, too, is sharp and chilling, but he is not so rough and cold as the north wind.

"From the far West, the home of the red man, I come; from the blue Pacific, from the Rocky Mountains, and the vast prairies of the West. Often do I hear the war-whoop of the Indian, and bear the smoke of his camp-fire up to the clouds. I lead a wild, free life. I would not live with the north wind in his gloomy icicle home; no, not I."

And with these words he is gone. And then the mild east wind floats by, bearing tales of the fair lands from which it comes. It has crossed the wide ocean, and traveled far over land and sea, to tell us of the sunny skies and soft air of its lovely home in the far-famed East. It has visited the sandy deserts of Africa and Arabia; it has seen the place where the Savior lived and died; it has traveled over densely populous Europe, and passed over the lofty domes and glittering crescents of the Mohammedan mosques. Many and strange are the tales it tells, if we will only listen to them.

Next comes the soft south wind, from the land of unending summers and ever-blooming flowers, the luxurious South. He lingered long there; and when at last he came here, all nature rejoiced. The tender young buds opened their leaves when he touched them, and the grass sprang up under his light footsteps. He is better liked than any of his brother-winds, because he is so mild and gentle.

At the present time the north wind seems to have obtained the predominance; but we may hope, when spring comes again, the soft south wind will once more favor us with his presence.

Rockton, Ill. AUNT VIC.

CALIFORNIA.

Santa Barbara and its Surroundings.

BY AUNT KATIE.

DEAR JUVENILES:—We took a trip to Santa Barbara, the lovely city by the sea, last month, to attend the county fair. We had a nice rain, commencing the 13th of Oct. It was cloudy and showery for a week, and then it cleared off warm and delightful. We started just one week from the day it commenced to rain, and the hillsides were thick with green grass; and where the road went through stubble-fields, the grain that had fallen on to the dry earth during the harvesting had grown one inch in length. It surprised even us, who are used to the wonderful things California can do. The roads were splendid, and the lovely fresh green grass was a perpetual delight.

We took our tent, bedding, and provisions with us, so we were independent, and could stop when and where we liked. The first night we stayed with friends at their urgent request, and the next day we took our dinner at the foot of the hill that leads up to the Las Cruces hot springs I told you of last year. Of course, we went up and had a delightful bath. We found an equestrienne party just starting away. There were three ladies and one gentleman. They had come the day before from Santa Barbara by the Coast Road, 30 miles; stopped at a farm-house for the night, and then had come to the springs, 8 miles, took a bath, and were going to Santa Ynez, 15 miles, stay all night, and then over the mountains another road home. How many of you could do that, think you? This is a great country for horseback riding, and many a laugh is had at the awkardness of people fresh from the east, when they attempt to saddle a bronco, or California horse. The women we saw at the springs were some of Santa Barbara's best ladies. They saddled, bridled, and mounted without assistance. Each one had a cup at her belt, and a pair of saddle-bags behind the saddle, with toilet appurtenances in them. They filed gently down the mountain, after saluting us. We took our bath, then on through the wonderful pass of Gariota. The first few times one goes through that cleft in the mountains, even the strongest quail a little when they pass the "hanging rock." About 100 feet above the road, a monster rock, weighing hundreds of tons, seems just ready to fall; and when it does fall, the road will be blocked for a good while; for there is only room now for the noisy brook and the road, through the pass.

After watering our horses at the last crossing of the brook we went on to the Gariota landing, where the children were delighted by the sight of a steamer loading wheat, barley, and wool, for her trip to San Francisco. We stayed all night at Gariota, then on to Goleta, 8 miles from Santa Barbara. While we were going there we followed the shore of the sea all the way, 28 miles. We were much amused at the pelicans. They would fly up over the sea about 50 feet, and then drop splash into the water. They were fishing. The sea-gulls were very much interested in the fishing also, for they generally managed to be on hand the moment the pelican emerged from the water, and we suppose they sometimes got the fish that the pelican had dove for, because we could hear them scolding in a rather whining voice, when two or three sea-gulls attacked them at once. The telegraph wire was on the left of the road; as we journeyed along we were talking about the number of birds upon the wire, when down came a flock of wild canaries. One circled around the horses' heads, and then came and alighted on the lines, within 6 inches of Mr. Hilton's hands. It turned its cute little head first on one side and then on that; and as Ernest grasped at it, it flew away. Wasn't that cute to come and greet us in that way? We have wondered since if it could not have been a tame one that had got lost. The nearest house was three miles away, but that is not far for a bird.

I find that I have made my letter so long that I can not tell you any thing about what we saw at Santa Barbara, but will in my next one, if Mr. Root will let me. AUNT KATIE HILTON.

Los Alamos, Cal., Nov. 9, 1884.

By all means, go on, Aunt Katie, and tell us the rest. Travels are always interesting, and more especially are they when they come from your wonderful State of California.

LETTER FROM TOKIO, JAPAN.

FROM OUR REGULAR CORRESPONDENT, ADA KRECKER.

DEAR MR. ROOT:—I was much surprised and pleased a few days ago, to receive a postal card from you, crediting me one dollar for the letter of mine which appeared in the June number of GLEANINGS. In looking for something to select for my dollar, I found a list of books in the May number of GLEANINGS, which I showed to mamma. She thinks I shall enjoy "Moody's Best Thoughts and Discourses," so please send me that. I thank you very much for the Pilgrim's Progress you sent me. I read it as soon as it came.

Mamma showed GLEANINGS to a friend of hers. They have often said they would like to know you personally, because they think you must be a very good man, and I think so too. They very much enjoy Our Homes, and your answers to your correspondents.

The weather is getting cooler now. We have cool mornings and evenings, though the middle of the day is quite warm. Here in Japan, from the tenth of June till the tenth of July we have what we call the "rainy season." This year it was not so bad; but some years it rains nearly if not every day; not a good earnest rain that makes one feel happy for the flowers and bees, but a drizzly rain that stops every little while for a five-minutes' rest. Then from the tenth of July till the middle of August we have the very hottest weather; but this year we fared very well in this line also. The fruits, too, are far better than usual. Mamma says this year, in fruit and climate, has been the best she has experienced in Japan.

The Japanese eat their fruit when it is quite green (some of it they pickle, usually plums or apricots); so when we ask for *ripe* fruit they bring us fruit that has decayed on the tree, and consequently is all wormy. But this summer we have delicious fruit. One day, while mamma was eating a Japanese pear she exclaimed, "This really tastes something like a home pear."

I thought perhaps you would like to read a Japanese story, so I inclose one that I have translated into English. We all think it is very good. It is the kind the *good* class of Japanese tell their children; the lower class principally tell ghost and other frightful stories. A Japanese lady tells baby Frederic the story I send you. One time I listened, and got so interested in it that I undertook to translate it; another Japanese lady heard about it, and gave me several of these story-books, all of which I intend to translate some time or other. Here is the story.

THE STORY OF A SPARROW.

Long ago there lived an old man and his wife. This old man had a sparrow which he was very fond of. One day the old man went out to gather wood, leaving the sparrow in the care of the old woman. Instead of feeding it she left it alone in the same room where she had put her starch. When she came back for the starch (for she had been washing) she could not find it. Knowing the bird had eaten it she grew very angry, and in her rage cut off his tongue and let him fly away. Of course, when the old man came back he was very much surprised to see the empty cage. "Why, where is the bird?" inquired he.

"He ate my starch, so I cut off his tongue, and let him fly off," replied the old woman.

"Oh! that is very pitiful," said the old man. "I must go and find him." So saying he started out to find his pet sparrow. As he went through the wood he said,—

"Tongue-cut sparrow,
Where is your home?
Chu, chu, chu."

Then he looked around; and seeing the sparrow he said, "Good-morning!"

"Why, good-morning," returned the bird. "I am very glad to see you; won't you come in?"

The old man thanked him; and after apologizing for his wife's ill conduct, went in. The sparrow brought him tea and cakes, and called a dancer to dance for him. After awhile the old man said, "It is getting late, I must return to my home."

"If you must go," replied the bird, "I will give you a trunk. Would you like a light or heavy trunk?"

The old man, who was very unselfish, and not wishing to appear greedy, said, "A light one, for I am old, and can not carry heavy things." So he received a small light trunk; and after thanking the bird profusely, the old man departed.

When he arrived home and opened his trunk he found a great many nice things in it; and the more he took out, the more were there. Then his wife saw them, and said, "I'm going to get one too." So she went to the wood, and called,—

"Tongue-cut sparrow,
Where is your home?
Chu, chu, chu."

Then she hunted a little, and at last saw the sparrow. "Good-day," called the bird.

"Good-day," returned the old woman. "I have come to apologize for my behavior this morning." She was asked to come in; and when she did so the sparrow gave her some food; but it was all bitter, so she could not enjoy it.

"I wonder when he is going to give me a trunk," thought the old woman to herself; and then she said to the sparow, "I must go now, so good-by."

"Oh!" said the sparrow, "good-by; but I will give you a trunk. Would you like a heavy or light one?"

Now, the old woman was *very* selfish; and thinking there would be more in a heavy one she said, "I am very strong yet, so I will have a heavy one."

So she got a heavy one. All the way home the old woman was thinking how heavy her bundle was. As soon as she reached home she said to herself, "My! I guess I will open it right away. There will be lots of things in it."

So she opened it; but, behold! nothing but evil spirits proceeded from it, and the old woman was so frightened she ran to the old man and said, "Look! all this comes from evil in my heart. I will be a good woman, so please forgive me." "All right," said the old man, and ever after that she was good.

Tokio, Japan, Aug. 31, 1884. ADA KRECKER.

There is one thing I like about your story, Ada, and that is, there is a good moral about it. Of course, birds can't talk, especially when their tongues are cut off, and so we presume it is only a fable; but I am very glad to hear that the Japanese fables have an element in them indicating the longing that is in every human heart for that Christ-like spirit—that hungering and thirsting for righteousness or good things.

JUST BEFORE NEW YEAR'S.

AUNT VIC'S CHAT ON RESOLUTIONS.

THE year has nearly rolled around, and we have not been unfrequently reminded, as the autumnal leaves come fluttering softly to the earth, and as the bed-chilling nights creep in upon us, of the days that have flown into eternity; and at the same time, future encounterments rise up before us, that something must be done to keep the "wolf from the door." It is now almost time to renew our subscription for GLEANINGS, and to store away the bees for winter, before the annual visit of that exquisite but quite familiar poem, "The Beautiful Snow." The summer has passed, with all its boating revelries, its fishing and bee-chasing excursions, its many warm days of toil in the field by the industrious farmer, who puts forth his every energy to secure the necessary articles of life for the coming winter. The summer has flown like the humming-bird off the sweet-scented rosebuds, and the chilly fall breezes have stolen through the terraces, and spread their frosty wings over the once flower-strewn fields and meadows, where the bleating lamb with fleece of white once skipped and basked in the noonday sun.

Now we can, through imagination, unfurl to our future gaze the sharp, nipping frosty mornings of mid-winter, when the snowflakes will be seen cutting the air, and the raging, roaring blows of old Boreas will be felt as he hurls his furious ravings headlong down the arctic regions; and it has now also nearly come to the time, New Year's, when men should lay aside the old muddy smoke-begrimed pipe, with grim vows of abjuration in toto for all coming time of the "evil weed." But, don't go, and, inside of two weeks, purchase a brand-new meerschum, and a fresh bag of "Durham's unrivaled smoking-tobacco." Now is the time when the patient chewer of the cud through many long years of winter snows and summer heat is suddenly seized with spasmodic piety, and, with high and virtuous intent, goes out stealthily behind the barn or corncrib, and, with an arm moved by a mighty resolve, hurls the half-eaten plug far out into the silent and desolate cornfield beyond, returning with high conscience and virtuous breast into the purified atmosphere of the domestic circle. But, "alas my father!" don't let the dawning light of the new year find the new convert crouching low among the tall bare cornstalks, creeping on hands and knees in diligent, anxious search of the discarded but still precious weed.

It is now time when the poor victim of the intoxicating bowl, roused to sudden inspiration of resolve, takes his last look at the wine-glass, bids a long adieu to corn whisky, and, with moral heroism, "swears off," signs the tee-total pledge, and draws soberly his breath. Now, don't go (in utter surprise at your own powers of self-denial) straight down town and drink to "resolutions." It is now the time when anti-tobacco and tee-total reformers, and hygienic enthusiasts generally, take off their coats and roll up their sleeves, dip their pens afresh for a renewed warfare upon the frailities and imperfections of their fellow-men. It is the grand time all around, of reform. It is the time of year when everybody is "chuck full" of pious resolves, prudent purpose, and good advice. It is the season of festivals and revivals, and every thing in general is at fever heat. It is time to "get religion," pay off old debts, buy new clothes, to inaugurate a new order of things, and to start out in a clean state. In this general moral upheaval of society our fellow-citizens generally would naturally be expected to participate. The hard-fisted, griping old miser whose decrepit, withered hand that palsy shook, grasping the yellow earth to make it sure, suddenly relaxes the bowels of compassion—so long shut up—toward his fellow-men; the festive spendthrift in the bright dawn of this glorious day, turning from the gay halls of riotous mirth, would bid adieu for ever to the broad fields wherein he had sown his "wild oats," and settle down to plow his father's corn and plant his mother's beans. The liar, suddenly being filled with the love of truth, would cease to labor in his father's (the Devil's) vineyard. The tatler, the scandal-monger, the "busybodies in other people's matters," the thieves, the loafer, and other nuisances of society in general, would be banished to parts unknown, and "the places that now know them would know them no more for ever."

Rockton, Ill. AUNT VIC.

It seems to me, Aunt Vic, your mood is a little sad, especially for this season of the year. I know men do make resolutions, and break them, just as you picture, for I have done the same thing myself; but it was before I had learned to say, with bowed head, "God have mercy on me a sinner," and before I had learned to ask God to help me in keeping these resolutions for the better. It was before I had learned to trust him, and to rest on him. And now, dear friends, if there are any among you whose heart has been touched by the above life-like picture, let me tell you how to make resolutions that won't be broken: Accept the Savior as your friend and helper, and in him and through him go to work. Unite yourself with Christian people in their weekly prayer-meetings; tell them of your struggles and trials, and ask them to pray for you. Read God's holy word; start out in good earnest on a new life, and you will not fail. I never knew a man or woman to fail who started out in the beaten path according to the Bible teaching; and we have the promise, plain and clear, "Whosoever cometh to me, I will in no wise cast out." May God help poor weak struggling humanity at this present season, just before the advent of a new year!

TOBACCO.

A PARABLE.

THEN shall the kingdom of Satan be likened unto a grain of tobacco seed, which, though exceedingly small, being cast into the ground, grew and became a great plant, and spread its leaves rank and broad, so that the huge and vile worms formed a habitation thereon; and it came to pass in the course of time, that the sons of men looked upon it and thought it beautiful to look upon, and much to be desired to make lads look big and manly, so they put forth their hands, and did chew thereof; and some it made sick; and others to vomit most filthily. And it further came to pass, that those who chewed it became weak and unmanly, and said, "We are enslaved, and can't cease from chewing it," and the mouths of all that were enslaved became foul; they were seized with violent spitting, and they did spit even in ladies' parlors, and in the house of the Lord of hosts, and the saints of the Most High were greatly plagued thereby.

And in the course of time it came to pass that others snuffed it, and they were taken suddenly with fits, and they did sneeze with a great and mighty sneeze, insomuch that their eyes filled with tears, and they did look exceedingly silly, and yet others cunningly wrought the leaves thereof into rolls, and did set fire to the one end thereof, and did suck vehemently at the other end thereof, and did look very grave, calf-like, and the smoke of their torment ascended up for ever and for ever, and the cultivation thereof became a great and mighty business in the earth, and the merchantmen waxed rich by the commerce thereof. And it came to pass that the saints of the Most High defiled themselves therewith; even the poor, who could not buy shoes nor bread nor books for their little ones, spent their money for it; and the Lord was greatly displeased therewith, and said, "Wherefore this waste? Turn now your fields into corn and wheat, and put this evil thing far from you, and be separate, and defile not yourselves, and I will bless you." But with one accord they all exclaimed, "We can not cease from chewing, snuffing, and puffing—*we are slaves!*" NANCY E. CHAPMAN.

Thank you, my friend; but if I am not mistaken, the above has appeared in print already; but as the moral is excellent, we take pleasure in printing it again. In sending in any thing that is copied, the writer should always be careful to so state it.

JUVENILE·DEPARTMENT

Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from $1.00 to $1.50 If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows; viz.: Sheer Off, The Giant-Killer The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room.

"A chiel's amang ye takin' notes;
An' faith, he'll prent it."

FRIEND FRADENBURG sent us a pair of his English rabbits, and then the question was, where to put them. We kept them in a box a couple of days, and they behaved themselves all right; but for all that, I felt bad to see the little demure chaps in such close quarters, and so I built a yard for them down by the carp-pond, in order to give them as much liberty as I could. We made it 16 feet square. As friend Fradenburg says they dig under the fence unless something is done to prevent it, we put 16-foot barn boards one foot wide in the ground edgewise, clear around the inclosure. You see, they would then have to dig down a foot before they could get under. Then we put a post at each corner, and then a post at the middle of each side. On these posts we put a board to nail the pickets to, the lower ends of the pickets being nailed to the barn boards set in the ground. All went lovely for about a week, when one of the rabbits was found dead. We couldn't think what wild animal it was that was killing our rabbits, until a little snow fell, and then we saw—what do you think? Why, it was the track of a cat. The rabbits are as big as two or three cats, and yet the cat killed it. She could not eat it all up in one night, and so she came the next night to finish her dinner. Well, we (that is, Huber and I) concluded we couldn't have our rabbits all eaten up by cats, so we covered the whole top with lath, and now the one rabbit sits there solitary and alone. We wrote to friend Fradenburg, and he promised to send another right away; don't you think the poor lonesome rabbit will be glad to see a comrade? and don't you believe, too, he was glad when he saw the lath over the top of his pen, so there can't any more great savage yellow-eyed cats pounce down upon their poor little innocent selves?

LIZZIE AND HER PA AND THE BEES.

My papa has a very small garden, but he has six hives of bees. He started with three this spring. Two or three weeks ago I had three birds for my pets. Two were in a cage together, and they fought so much that they killed each other. I have a dog and a cat. I go to Sunday-school and day school. My papa has three Newfoundland puppies.

LIZZIE GURNEY, age 9.

Newark, N. J., Nov. 23, 1884.

OVER 300 LBS. OF HONEY FROM ONE COLONY OF BEES.

My pa keeps bees; he has 25 colonies. He made over 300 lbs. from one colony. He makes fdn. I like to help to hive bees.

LYMAN SHANGLE, age 13.

Chesning, Mich., Nov. 6, 1884.

A pretty big report, friend Lyman; but I suppose it was extracted honey, of course. It seems to be a pretty good place for bees where you live.

FROM 2 TO 10, AND 20 LBS. OF HONEY.

My father wintered 2 stands of bees. He has 10 now. He has taken 20 lbs. of honey.

EVERETT GORDON, age 9.

Middle Fort, Ind., Nov. 24, 1884.

Well, Everett, that is pretty well, providing your father increased from 2 to 10 without buying any. But you didn't tell us any thing about that.

FROM 75 TO 135, AND 5500 LBS. OF HONEY.

As the honey season is about over I will tell you what we did with bees this year. We started this spring with 75 colonies; increased to 135; got 5500 lbs. of honey, mostly extracted. Our bees have been at work for the last six weeks on the broomweed. It is done blooming now; it makes bitter honey. Ma says that it is healthful. I helped pa with the bees. I helped pa hive the swarms, and extract the honey. I like to work with them, and they don't sting me much, only when I press them.

MARY J. SEEVER, age 13.

Mt. Calm, Texas, Nov. 14, 1884.

Why, Mary, that is a tiptop report. I am glad to hear of such a good-sized, prosperous apiary away down in Texas.

HOW A LITTLE 2-YEAR-OLD FRIEND GOT ACQUAINTED WITH THE BEES.

I like the book you sent me, very much. I think it is splendid. GLEANINGS comes twice each month, and I like to read it. Our bees are all in good condition. When my little brother was two years old, and we had just set out our bees in the spring, and they were flying nicely, the little fellow went out to see them. He took a stick, and began to punch them. The bees came out, and stung him badly. Mamma came out and took him into the house. He is now three years old. Please tell me about what time you put your bees into winter quarters.

MARY STANTON.

Hutchinson, Minn., Nov. 6, 1884.

We do not put our bees into winter quarters, Mary, but leave them on their summer stands. We put on the chaff cushions, and finish them up, in the fore part of November; but the feeding is all done in September and October.

EXTRACTING IN OCTOBER.

My father had 15 swarms of bees in the spring. In October he extracted 1000 lbs. of honey; he had two late swarms that he got no honey from. This has been a very hard year for bees here, for it never rained from June until the first of October. Father has one of your extractors, and it does very well, except when the honey is thick, and then it throws it out at the top. **Cora Long, age 12.**

Iola, Clay Co., Ill., Nov. 23, 1884.

Are you sure, Cora, your bees could spare 1000 lbs. of honey in October? Of course, they don't gather any so late in the season. Tell your father, when he is ordering something from us, to mention something about the extractor, and we will put in a rim without charge that will stop all the honey from flying over.

STELLA'S SECOND LETTER.

I have written you one letter, but I thought I would write you another. I was eight the 18th of Nov. I go to school, and love my teacher. I read in the Second Reader. We cleaned up last Friday, and were so late that our folks got scared, and sent for me. Another little girl was not well, and she worked so long and hard that she was nearly laid up. Her apron was wet as it could be. Her folks were some fretted too. I should like to go into the Third Reader. Some in my class are much older than I am. There was a little boy that came to school, who was much older than I, and he could not read well, and was in next to the last class already, and she put him back in the word class, and it made him mad, and he didn't come to school.

Stella N. Mendenhall.

Sylvania, Ind., Nov. 23, 1884.

ARTHUR'S LETTER, JUST AS HE WROTE IT.

I aM A liTTLe BoY SIX YeARs oLd I HAve A siSTer, AJLice, AND I go to scHOOL AND I HAve a sHeeP ouT to DoBale I sAVed THE moNeY my PLY to BY THe*M* MY PAW HAs 13 HiVes oF BeeS AnD We HAd 600 PoNDs oF HoNeY iN coMB MY PA TAKes gLeANINgs My bIRtHDaY WAs oN The 8 oF THIS moNTH I CARRY Bees iN mY HANDs a*nd* THat DoNt StING me

Coboconk, Ont., Can. **JAmes ARTHeR HA*M*.**

Well, Arthur, that is a pretty good letter for a small boy; but you got in some letters, I guess, you didn't mean to have; and then, again, you left some out you did mean to have. For instance, you say your pa had 600 *ponds* of honey. I guess you must have been thinking of carp-ponds, were you not? A pond of honey would be an awful big lot, and 600 ponds would be so much I do not believe all the world could use it. Now, if you just had a letter U in your "pond," it would have been 600 *pounds*, and this would be a pretty decent crop for 13 hives of bees. You see how much difference just one little letter makes.

LETTER FROM A LAME BOY ABOUT THAT GRAPEVINE APIARY AWAY DOWN IN FLORIDA.

I thank you for that picture that you put in Gleanings, of our grapevine apiary. We have been bothered with skunks. They bother our bees; they scratch on the hive, and the bees come out to see what is the matter, and the skunks eat them just like a pig eating corn. The way to tell when they go to a hive of bees is, they scratch a little hole right in front of the hive. We catch them in steel traps. **Chas. Leyvraz, age 11.**

Francis, Fla., Nov. 18, 1884.

Thank you, Charley. Seems to me a good smart dog ought to be able to chase skunks out of your neighborhood; but I suppose the dogs generally consider it a sort of disagreeable job, and I don't know how anybody can blame them very much.

THE THREE BOYS, GARFIELD, ARTHUR, AND NOVICE.

My pa keeps bees, and this morning he took a load of honey to Albany to sell. We have a pair of twins. Their names are Garfield and Arthur. They were four years old the 15th of this month. Garfield is not at home now. My cousin was here on their birthday, and she took him home with her. I am sick now with the earache, and so is Arthur. My eldest brother is at school. His name is Novice.

Edno A. Boomhower, age 10.

Gallupville, N. Y., Nov. 17, 1884.

Why, friend Edno, I should think probable your papa and mamma must have had politics and bee-journals both in mind when they named their boys. We remember your papa as one of Gleanings' old and very earnest friends.

A JUVENILE LETTER FROM AWAY OFF IN NEW ZEALAND.

Papa has 11 stands of bees. He had 12, but one died during the winter. One day he went to look at his bees, and he felt sure one of the eleven was dead. A few days after, he put the hive on a box. Last Sunday, however, he went to look at it again, and the bees were all alive, though they had but little food. Papa came in, and got a cup of sugar and water to feed them with.

Last summer papa sold more than 130 lbs. of honey, besides what we used in the house. We have some of it left yet. Our bees are very fond of buckwheat. Papa usually sows some for them. Last year, when it was in bloom, there were a great many bees on it. The winters are so mild out here that we do not need to pack the bees in chaff or any thing else. **Mary E. Wallis, age 10.**

Papakura, N. Z., Oct. 4, 1884.

THE 3 SWARMS OF BEES THAT TOOK A NOTION TO LIVE IN A HOUSE.

Last spring a big swarm of bees went into my uncle's house over the door, and went in between the plastering and upper floor. This was on Saturday night. On Monday, while they were working at them to get them out, another swarm came and went in with the first one, and a little later another small swarm came and went in with the other two.

My brother takes Gleanings, and keeps bees, and uses the Simplicity hive.

Perl Cranston, age 12.

Woodstock, Ohio, Nov. 5, 1884.

Why, Perl, this is indeed wonderful. I think, however, you do not mean in the spring, for bees seldom swarm out unless they do so from starvation. If these were starvation swarms, your uncle must be pretty careless with his bees, to have three swarms start out in that way. I suppose you mean the two last went in there in one day, do you not? Perhaps they caught the swarming mania, and, hearing the first one hum as they crawled in, joined in with them, as bees often do. May be you can tell us a little more about it in your next letter.

ANNETTE'S LETTER ABOUT "BEES AND HONEY."

Father has about 60 stands of bees. I watch for the swarms, and get ten cents apiece for all that I find. Last summer we had a great many swarms;

they came out so thick that two or three swarms were in the air at once, and sometimes they went together. If one swarm got settled, but did not get hived before another came out, father would put a cloth around them so they would not go together until the other settled and was hived. We have a great deal of honey. Father sent 1000 lbs. of honey away, in 1-lb. boxes. We have it strained, in 1-lb. boxes, and in cakes. ANNETTE FORD, age 12.

Bishop Creek, Cal., Nov. 15, 1884.

Well, I should think you would make money real fast, Annette, especially when there are three swarms in the air at once. Thirty cents in just a few minutes—whew!

150 LBS. OF HONEY FROM 8 COLONIES OF BEES.

My father has 8 colonies of bees; they all lived through last winter, and are in pretty good condition for this winter. We got 50 lbs. of extracted honey and 100 lbs. of comb honey this summer. They have not swarmed this season. My mother and I hived two swarms of bees last summer, and I helped my father to hive the rest that swarmed, and never got stung last summer or this. The first time they swarmed last summer they alighted on a small tree near the ground, and mother tried to sweep them down; but they got mad, and mother was afraid they would sting her, and so I had to shake them down. Father came home just as the bees were all marching into the hive.

I have a pair of nice rabbits, one black and white, and the other gray and white. I had a white one, but it died, and I intend to get another.

EDGAR D. MOHAN.

Anderson, Madison Co., Ind., Nov. 24, 1884.

HOW TO WARM UP A BEE-CELLAR WHEN IT GETS COLD.

Last winter pa had 23 colonies of his bees in the cellar when the weather got so very cold, 22 degrees below zero, and almost at the freezing-point in the cellar. He was almost at his wits' end how to keep them from getting too cold. At last he hit upon a plan. He got large pieces of iron, and heated them hot, then carried them into the cellar and hung them up. They kept it nice and warm, and the bees wintered well. The bees that pa left on their summer stands did not do as well as those he left in the cellar. CHAS. A. SEABRIGHT.

Blaine, Belmont Co., O., Nov. 18, 1884.

Thank you, friend Charlie; but I do not believe it would hurt your bees if the temperature did get down to the freezing-point just a little while. If you have weak nuclei, however, perhaps it might be a good idea to carry in a big chunk of iron made quite hot. I suppose an old anvil, for instance, after it was once well warmed up, would keep the cellar from freezing for 24 hours or more.

DO BEES EVER SLEEP?

I live with my uncle. He has 40 swarms of bees; we started last spring with 16 colonies; this has not been a good season for bees; we got 600 lbs. of honey. We take GLEANINGS. I should like to know if bees sleep. I like them, and I help to tend them. We use your one-pound sections.

NETTIE BRECKBILL.

Kirkwood, Ill., Nov. 24, 1884.

So far as we can discover, Nettie, bees do not sleep; at least, they do not during the working season. In the winter they assume a semi-torpid state, which is very much like to sleep. Brother Clark just now has a good deal to say about the hibernating theory—a condition in which bees sleep all winter, and eat so little that we might say their board costs next to nothing. I hope he is right about it; but I am afraid, when we get to work it down so a pint of honey will last a swarm of bees all winter, that somehow it won't work.

BUTTER-AND-EGGS AS A HONEY-PLANT.

I send you this day a honey-plant for you to name. We call it "butter and eggs." It grows on hill and valley, on poor and rich land alike. When the drought comes, and there is no honey in other flowers, the bees go for it, as it has a plenty of honey, and the frost has no effect on it. The bees were working on it on the 4th of this month, and it is now in its best flower. It blooms from early spring till hard freezing weather. It grows from one to two feet high. It is a beautiful plant, in foliage and flower. I could send tons of plants and plenty of seeds, if wanted. LAURA M. HOBBS, age 11.

Middleport, Ohio, Nov. 7, 1884.

Thank you, friend Laura; but I don't believe anybody will want seeds of butter-and-eggs. I have known for some time that bees work on it, but I believe, as a general rule it does not amount to any thing. It is a rather bad weed when it gets into pastures.

ROSA'S STORY.

My papa keeps bees, and he has 9 stands. He has 3 kinds—Italians, hybrids, and black bees. Once we had a little fun with bees, my sister and I. We had a plate of wax, and we wanted to stir it around, and the bees came at us so that we had to "skip." My sister got stung in the lip, and the bees came in my hair, and we ran about the whole orchard. Once my papa was at the spring, and he saw a long-legged thing, and each one had a bee. What kind of insect was that? ROSA F. LONG, age 10.

Millstadt, Ill., Nov. 16, 1884.

Why, Rosa, I do not know how I can tell you what those things were that had the bees, without a little more information. When you called them "long-legged things" I thought they might be cranes, or some great birds wading in the water; but afterward you called them insects. May be it was the *Asilus Missouriensis*, or the Missouri bee-killer.

A JUVENILE LETTER FROM ENGLAND.

I thought you would like to hear from an English boy again, and know how we are getting on in England. The spring was rather bad for bees, as it was very cold after some mild weather, and the bees went out and were lost by the thousands; but as the summer came on it was very good for honey; we had a lot up to the first week in July, and after that it was cold and showery, so that the bees did not get much honey from the white clover, which was very abundant. Father worked his sections in crates holding only a single row, putting as many as four rows on a hive. He has had a lot of extracted honey too. I helped father to fill the honey-bottles. He has between 50 and 60 stocks of bees, Ligurians and hybrid; also English and Carniolans. I have 2 stocks; one of them swarmed, and I sold it for 17 shillings. I got two first prizes for honey in sections, and father got the silver medal at our show held at Stratford on Avon, Shakespeare's birthplace. Father takes GLEANINGS, and I like to read the letters in it. I have two rabbits, and we have 7 fowls; 3 chickens hatched in May; 3 old hens and a cock, and an old tortoise-shell cat that is a good jumper, and a kitten. I go to school at Hunningham, which is a mile from our house. I got the first prize in our standard. This is Guy Fawkes' day—gunpowder plot. This is the third letter I have written to you. I thank you very much for Silver Keys and Sheer Off, which you sent me before.

PERCY WALTON, age 9.

Weston, Leamington, England, Nov. 5, 1884.

We are always glad to get letters from the little friends over in England.

THE GOLDEN BEE-HIVE, AND SOME OTHER MATTERS.

I have just got done reading the last journal. I love to read them to get information, so I can work with the bees when pa is gone. My pa has some 72 or 73 colonies; he has one Holy-Land colony. They are very strong; we think a great deal of them. They are very cross. The Golden bee-hive, that I spoke to you about in my last letter, has proven to be no bee-protector, but we find they are living in the Simplicity hive. We have our bees fed, packed, and made strong, for winter.

I have 5 sisters and 2 brothers. One of my sisters lives in Iowa, and both brothers live there. I have a sister, Lessie, 2 years old. She comes out to the hive-factory where we are at work and says, "Dinner is ready!" She is quite a little bee-girl, but rather a "*honey*" girl, as she asks for butter, bread, and honey, every little while, and the baby is about 9 months old. She tries to stand alone. These are the most precious pets; but I have a great big Maltese cat. I think he is the "brag" of the Maltese cats. I would not give him for any dog I know of. He will scratch the door to get in the house; and when I tell him, he will jump up in my lap.

I want to work with the bees, and be able to get one of your watches, and I think I will start out before long and get up a club, and get one of your premiums.

ALBERT MENDENHALL.

Sylvania, Ind., Nov. 23, 1884.

HATTIE'S BIOGRAPHY OF A LITTLE WHITE MOUSE.

I am a little white mouse, and do whatever I want to. When I first came I had to stay shut up in a cage; but after a time, I think it was a week, the boy came and said he thought I would stay, so he let me out. I played with some other brown mice, but the boy scolded me, and told me I must not play with them, because they were bad, and stole cheese, so I have played with the rabbits since then. The other day the little girl had company, and I thought I should never come out alive. They would hold me, and say I was the prettiest thing they ever saw. I saw a black cat catch one of the brown mice, and I ran away, because I thought he might catch me; but the boy said he would not, because he told him not to, so I guess he will mind. When I was playing the other day I fell off the table and hurt myself, and I am dying now.

Anderson, Ind. HATTIE MOHAN, age 10.

Very well done, Hattie, for a juvenile attempt at fiction; but it seems to me your tragic wind-up is not in keeping with the former part of the biography; that is, I should hardly expect a *dying* mouse to tell all those other things that happened, in such a life-like, cheerful tone.

THE CARP-POND.

My father has a carp-pond. It covers about one-third of an acre. Three years ago he sent to the fish commissioner at Washington, and received twenty German carp, about six inches long; four of them were dead when received. There were other fish in the pond when we put them in. These ate the eggs of the carp, for we have seen no little carp. We seined the carp out, and threw dynamite in the pond, and thought we had killed the other fish, but they were only stunned. The carp were eighteen inches long when two years old; they are now over two feet long, and no little carp yet.

We are making another pond to put the carp in. It is twice as large as the other one. We feed our carp crumbs from the table, and corn bread. They are very fond of curd, and will eat pumpkins too. We brought aquatic plants from the creek, and set out in our pond; we also planted water-lilies, but they didn't grow. I don't know whether the fish harmed them or not.

JESSIE CARSON, age 14.

Cicero, Ind., Nov. 23, 1884.

Thank you, Jessie. Your letter is very interesting to me just now, and probably will be to many others. We credit you 25 cents for the information, and you can have the amount in cash, or something from our price list, just as you choose. We should like a good many more letters about carp-ponds. And while I think of it, I want to raise some cranberries around near the carp-pond. If any of the little folks can tell us something about cultivating cranberrries, I will willingly pay them for their letters.

FRANK'S LETTER, AND SUPERSTITIONS ABOUT BEES.

We have 12 swarms now, but we had poor luck with the honey business. We had only 56 1-lb. boxes this fall, and that came from a swarm of half-bloods which robbed the swarm of a neighbor who lived a little way off. My father says it has been a poor year for bees any way, and if they don't die this winter we shall probably have pretty good luck. The honey was made of white clover, and is nice and white. Mr. Day, one of our neighbors, gathered 416 lbs., and has made 50 or 60 dollars on it, and has 30 swarms. I stayed at home a number of days watching the bees, for fear they would swarm and go away; so one of the swarms, on Sabbath morning morning, took for a tree, and we never succeeded in getting them, for we didn't know which tree it was. Sometimes I get too near, and I get stung. I go to school, and sometimes the teacher says something about bees. This is what she told us she had heard, but she said she believed it was not true. She said that when anybody is dead in the house, to rap on the hive and tell them, or they would all die.

FRANK B. STARR.

Cambridge, N. Y., Nov. 10, 1884.

Frank, I am glad your teacher told you that that old superstition about bees is not true. It seems to me that any little boy or girl old enough to read a bee-journal ought to know that it is all foolishness to talk about telling bees when anybody dies. It is true, there are a great many strange and funny things to be learned about bees; but these are all consistent with natural history and common sense, while the foolish story about the bees dying if they were not told, etc., has no common sense about it.

OUR HOMES.

I will instruct thee and teach thee in the way which thou shalt go: I will guide thee with mine eye.—PSALM 32:8.

THIS is a great promise that we have, friends, and perhaps many a Christian has been inclined to doubt the promise, especially when he has seen what poor work he has made of trying to lead a Christian life, when, as it seemed, he was doing the very best he knew how. A thought was suggested, that is a very hopeful one, at our last Sunday-evening prayer-meeting. Our pastor gave us for our subject, "Regrets." At first it did not appear very clear to me what was to be said about regrets; but in a little time after the meeting started, the subject began to open and unfold; and as my mind began to run back over my experience in trying to lead a Christian life, the thought began to unfold itself to me, and to appear plain that regrets had played a very important part, in my life at least. They had formed a sort of monitor, or teacher, to guide me in the way God would have me to go. I have done very many things to regret, since I have tried to follow Christ; in fact, these regrets have been so intense, many times, that it seemed as though I would give almost any thing if certain acts, or words spoken, could be undone. Well, even if they can not be undone, they can be set up as a sort of landmark, as it were, to avoid similar mistakes in the future; and the way we feel after something we have said or done, is, as it seems to me, a pretty safe guide as to the course we should take in the future. A temptation presents itself. We decide it may not be exactly the thing a man ought to do, but still there is much difference of opinion on the subject, and who is to decide whether it is wrong or not? You give way to the temptation, but you do not feel happy about it.

Before I made any profession of religion I used to be so restless and uneasy on the Sabbath that I often tried to find some way to pass the day pleasantly. Sometimes I went out into the woods; but after the day was over, a kind of unsatisfied regret was all that remained. I tried different things that gave me pleasure during the week; but on Sunday the relish was lacking, and at night I was unsatisfied. Some ways of passing the day left fewer regrets than others. When I stayed at home, and tried to interest the little ones in wholesome instructions, I always felt better after the day was over; but when I took up any work I always felt regrets after it, and the sight of work that had been done on God's day ever afterward brought regrets.

My restless nature demands some active employment, even on *Sunday*. What shall it be that will bring *no* regrets? Have I found it? Thank God, I have. My class in Sunday-school, the work in the jail, our prayer-meetings, Sunday evenings at home, etc. Do you see why? Because the Savior said, "It is lawful to *do good* on the Sabbath day."

A young friend was once discussing the ballroom, and she had discovered this: That the day after she had attended a dance she invariably had a smaller opinion of herself than she had had before she went. There was nothing ennobling and elevating about it. The effect remaining was only a painful and humiliating regret. Was not this regret God's voice, in the language of our text?

The subject has been frequently discussed, as to whether it is a Christian's duty to attend the weekly prayer-meetings, year in and year out. Now, I can not decide for others; but whenever I have remained absent on account of business, or something that seemed to justify remaining at home, I have always, so far as I can remember, regretted it. There have been a few times when, under the circumstances, it seemed my duty to remain absent; but in all those cases I could have so prepared my work that an hour's absence would not have materially inconvenienced any one. After church time was past, the regret was that I did not take more pains to arrange for an hour's absence.

Years ago, when I was experimenting in making comb foundation by means of rolls, I found great trouble in dipping my sheets of wax. One Thursday evening I was at work at it, and it didn't succeed to suit me, so I pushed my experiments on until after dark, and it came prayer-meeting time.

"You will miss the prayer-meeting, Amos, if you don't mind," suggested my wife. But as the hour came I was just beginning to get the hang of it, and the wax was all melted, and a dauby mess it was too, so I thought I couldn't stop there, and have to make another trial of it, and I did not go. I worked until ten o'clock, but did not get any nice sheets, and went to bed with a painful feeling, and a regret that I had missed the meeting for the first time since my conversion. I decided then, that next time the prayer-meeting was to be the important matter, and my work or experiments next in importance, instead of first. Years have passed since then, but I feel just the same still when I am kept away from these meetings.

We have been having quite a dry time here. Our wells and cisterns were needing rain. The Ohio Fish Commissioners have just notified me that they would send me my carp so as to reach here Monday evening. On Saturday it began to rain, and the little puddle in the deepest part of the carp-pond, that I was afraid would not hold my fish safely, began to deepen. Just before meeting time (our weekly prayer-meeting for the older folks is between two and three o'clock on Saturday afternoon) I thought I would take a turn down to the pond, and see how it was filling up. It was filling up beautifully; but to my consternation I discovered a leak near the outlet. I had just time before me to get a little pail of bran and stir it in the water, in hopes to stop it, but it did no good. It needed a wheelbarrowful of yellow clay, well tramped all around the curb arranged for the overflow. If I stopped to do that it would take the hour for prayer-meeting. Former experience convinced me that my only safe way was to be on the spot, and direct how it was to be done, or it would probably not succeed in stopping the water. The rain was already slacking up, and there was not a bit of water to spare Probably it would turn around and freeze before night, and this would be the last chance of getting the carp-pond filled this winter, for we do not often have such warm weather many hours in the middle of December. Prayer-meeting or the carp-pond? Former regrets loomed up in the shadowy past, warning me that my enjoyment with the carp-pond and all these other things would be greatly spoiled if I omitted the prayer-meeting. A few weeks ago I was out of town, and of course could not attend the meeting. Brother Ryder told me when I got back that he missed me greatly. Perhaps I should be needed this afternoon. I did not remain undecided long. The water would have to run; and if it washed out a bigger place, and tore the bank down, I could go to work and fix it up with a clear conscience, feeling that I had God on my side, any way. I went to meeting. As it was a rainy day there were but few present. During the meeting a point came up where I was especially qualified to put in a cheering word. The hour soon passed, and I grasped my hat from its accustomed hook and sped homeward for the carp-pond. Do you know how much it is worth in this world to have a clear conscience? How bright and vigorous I feel for business when meeting is out! Every paving-stone under my feet seemed solid and good. I found the boy in the tin-shop, whom I knew would go to work cheerfully, and help me fix the pond. He got a wheelbarrow and shovel, and followed me as I hastily led the way. He had his rubber boots on already, and the water was not so deep but that he could get right in where the leak was, and drop the barrelful of yellow clay right around the spot. For a time it didn't seem to do any good; but finally, with the aid of a stick, he managed to ram the clay right home to the spot where the water was escaping; and as the leaky spot was entirely stopped he ejaculated, in his pleasant German accent, "I got him, Mr. Root!" Sunday morning I was rejoiced to see my pond well filled up with a depth of water amply sufficient to winter the carp, and no leakage.

Now, friends, I have not written this because I want you all to do just as I do in regard to attending prayer-meeting. I think it is better for me to attend—better in every way. Before the close of the meeting, the young people brought out another great truth. A great many spoke of having had regrets in going home from these meetings, because they did not take any part; so it would seem that God wishes us to have something to say, or take part in some way in these meetings, or the blessing does not follow. As I have for years been in the habit of taking part in some way in such meetings, I have never had occasion for such regrets, but have always been encouraged, cheered, and my conscience lightened by a regular attendance. The point I wish to get at is not that you should attend meetings, or take part, but that you should endeavor to so shape your life that there may be as few regrets as possible. When you commit downright flagrant sins, the regret takes the shape of remorse; and well can I remember that it was the thought of this remorse that held me back when nothing else would. How much is a clear conscience worth? How much difference does it make to a man when he starts out in the morning, whether he goes with a glad, happy alacrity, or whether he starts out with a dull, heavy remorse gnawing at his heart-strings, embittering every thing and everybody? You see, I know something about it, friends. When I first open my eyes in the morning, almost my first thought is, "What was on my mind when I went to sleep last night?" Was there any great load of regret and remorse and sorrow, or was it with a happy, confiding trust in Him who is in all and over all, that I closed my eyes in sleep? and memory soon begins to go back and pick up the details. It does not do, however, for me to lie in bed long with such thoughts; because if I do not stir myself, and get hold of the business that needs me, I shall, in a very few moments, begin to remember the regrets that followed for not having got up earlier, and so it is all through life. These regrets loom up as signals, or red lights, as it were; they seem to say, "Look here!" and, "here is where you stranded once before, and had much trouble and misery before you got out into the clear and open sea again." Look out; be careful; do not push ahead until you are sure it is the right thing to do. Hold on a little. You claim to be trusting in God, and looking to him for guidance, and he has marked out your way, almost, by setting up these signals to tell you where you ought not to go; and when you manage so as to keep clear from all the pitfalls that past experience has taught you to avoid, you are pretty near if not quite in the straight and narrow path.

As a rule, regrets follow when we have been too severe, when we have lacked charity, when we have spoken harshly, or insisted on what we deemed our rights; and therefore one might say that these regrets would lead a man to go through life letting everybody have his own way, taking the non-resistance doctrine, as it has been sometimes termed. I have not found this so. I remember distinctly a case where a man had, I felt sure, told me great falsehoods and done me great wrong. He was a professor of religion. I paid him a visit, and told him honestly the facts as they stood before me. He denied every thing; and rather than stir up a big fuss, I listened to his false statements without contradicting him. I did this, because in so many former cases I have repented of my harshness and severity. To my great surprise, I found that my conscience was not easy after leaving him. It was almost a new experience to me to feel regret that I had not been more decided and outspoken. The nearer I got home the more this feeling increased, until it seemed as if a voice were saying within me, "Shame, shame on you, a Christian, to stand quietly by and let a bad man think his thin falsehoods have passed as genuine coin." The thought finally became so tormenting that I turned about straightway, went back, and stood before his face, and mildly but firmly told him just how I felt about it, and that I was satisfied he had deceived me, and unless he confessed the truth I would take measures to make him do so. He cowed down before me, and owned up. Perhaps I should add, that intemperance was a factor in the case. I was surprised again when I went home with a light heart. In fact, I felt like singing praises to God, who had so plainly indicated to me my duty in this matter, and it was indicated by these regrets. Since then, after I have evaded some unpleasant duty in a sort of cowardly way, I have sometimes experienced a thrill of pleasure after doing duty, and I felt happy about it, even though the duty invovled giving great pain to somebody, providing it was done with the view of bringing better feelings in the end. I believe mankind err, as a rule, in too little charity instead of too much, as I have said before; but it is a cheering thought, that these regrets that God sends will instruct and teach us, in the language of the text, when we are letting things go too easily, as well as the reverse.

Who has not felt what a glorious thing it is to be able to choose that golden mean *between* letting things run along in a slip-shod sort of way, and the other extreme of making a great fuss about every small matter? One who goes through the world accomplishing very much must choose carefully between these two extremes; and what can guide us better than God's voice? And does not this voice come in the shape of these regrets I have spoken of? Those who are seeking to make God a partner in all the duties of life will be looking to him constantly for guidance, and instruction. We push ahead in what seems to us to be the right course; then we stop and listen, as it were. The feeling may be, "Well done, thou good and faithful servant;" or it may be, "Wait a little, my child; do not go any further just now;" or, the circumstances may be such that the feeling will be, "You are doing well, but you must not falter a moment here; push on, and hold the advantage you have got. Fear not; I will guide thee with mine eye."

Dear friends, it seems to me we can not, any of us, make any very great mistake when our attitude is one of an obedient pupil keeping his eyes toward the master, ready to go or stand still, or to turn about or go to the right or the left. Is it not a glorious thought, that this guidance we may all have, and that, no matter how poor and weak we may be, if we have this obedient spirit, we may be sure the result is eventually heavenward, and that the goal we shall surely reach is life eternal?

It may be well to state, that I do not mean by regrets, giving away to our emotions. A child may need punishing for his own good. No true parent can punish his child without feeling badly about it. It is a great cross for him, and he may feel badly about it for some time afterward; but I think I am not mistaken in saying that, when he has deliberately and calmly thought of the matter, instead of regret that he did his duty, there will be a feeling of peace and happiness that he could not have had, had he let his emotions stand in the way of doing this work that needed to be. Many people are moved to give traveling beggars or tramps a meal of victuals, or some old clothing, because the story they told appealed to their emotions; and they would rather give something than to refuse, when past experience and reason might decide, that to refuse would be the right and proper thing, while emotions and feelings would say something like this: "Well, I would rather lose 25 cents than to see the poor fellow go away looking so pitiful." I do not mean, in the above illustration, to decide that it is always wrong to give to those who come begging at our doors, for each individual must decide this matter for himself.

If we are not careful, our emotions may be mistaken for the voice of conscience. The *Sunday-School Times* said recently, that were a good deal of the talk about "doing good" changed to *doing your duty*, it would be much better for all parties, and I think they are striking at a great truth. Do your duty, whether you feel like it or not; and sooner or later you will feel God's approving voice. I do not believe anybody very often experiences regrets for having done his duty, and the duties of each hour are generally made plain as we go along, if we follow the light that is given us.

I will instruct thee and teach thee in the way which thou shalt go: I will guide thee with mine eye.

REPORTS DISCOURAGING.

A PLEASANT ASSESSMENT OF DAMAGES.

AS for damages, I told you I would not ask any, although I lost four or five days' honey-flow, but I have lost many times more than that since, by not having the flow. I had 13 stands, spring count. I increased this summer to 24; extracted about 180 lbs. honey; have doubled back to 21, and expect to double back still further, as I am not able to feed all up, and don't think it advisable, as the pasture gives out too soon. Poplar, linden, sumac, and other honey-bearing trees are all gone from our forests; in fact, our forests are all gone. I have fed about 150 lbs. granulated sugar this fall; have fed $1.50 worth of sugar for every 75 cents' worth of honey received.

I have a Pelham mill I should like to sell; would like to sell 15 stands of bees. I have 30 or 40 lbs. of beeswax to sell. I am too poor to advertise. I will ship all to you, if you will dispose of it. I have also 24 chaff hives; would sell 16 or 18 of them if I could; I never felt so poor in my life.

JOHN H. DANIEL.

Cumberland, Guernsey Co., O., Nov. 5, 1884.

Many thanks, friend D., for letting us off so easily on the delay. It is a little amusing to hear you tell about how much honey you lost because it didn't come. I guess there is a good lot of us who have been in that same fix a good many times. In regard to the forests being gone, I do not see any other remedy than to set to work and plant some more trees. I would not be in haste to sell out, friend D. May be another season your stock in trade will be found to be exactly what you need. One has to have a little experience in these matters before he learns not to be upset by a bad season now and then. The beeswax is as good as cash to us any time, but probably it will be worth more toward the honey season. In the fall is a bad time to sell beeswax. The other goods you mention, I presume some of our readers will be glad to take of you, if you really think best to sell out.

CONVENTION NOTICES.

INTERNATIONAL BEE-KEEPERS' CONVENTION AT THE WORLD'S EXPOSITION, NEW ORLEANS, FEBRUARY 24, 25, AND 26, 1885.

It is proposed to hold an International Bee-Keepers' Congress on the Exposition Grounds during the 24th, 25th, and 26th of February, 1885. An interesting programme of subjects will be presented and discussed, of importance to every bee-keeper in America. The disposition of our honey product, with a view to secure better prices, will be fully considered. At the same time there will be an exhibit of bees and apiarian supplies. Fuller particulars will be given hereafter. At the time selected, the Exposition will be at its best, and excursion rates low. The bee-keepers of our country should lay aside business for a week or two, and make every exertion to attend this convention. Come prepared with facts and statistics, and ideas arranged, to take part in its deliberations.

Dr. N. P. Allen, Smith's Grove, Ky.
W. Williamson, Lexington, Ky.
Dr. O. M. Blanton, Greenville, Miss.
P. L. Viallon, Bayou Goula, La.
Judge W. H. Andrews, McKinney, Tex.
W. S. Hart, New Smyrna, Florida.
S. C. Boylston, Charleston, S. C.
Dr. J. P. H. Brown, Augusta, Ga.
H. C. Austin, Austin's Springs, Tenn.
R. C. Taylor, Wilmington, N. C.
J. W. Porter, Charlottesville, Va.
S. Valentine, Hagerstown, Md.

With the above, comes the following letter from our friend Dr. Brown:

I herewith inclose you a call for an International Bee-Keepers' Convention. After an extensive correspondence these dates have been selected as the best suiting the majority of the bee-keepers. The Exposition offers a large hall for the meeting, and space for exhibits, free of charge. Rates of board, and quarters for bee-keepers attending the convention, will be announced through the journals as soon as practicable. Efforts are being made to have all apiarian exhibits withheld until the time of the meeting. Judging from your deep interest in apiarian progress, and the interest you feel in the welfare and prosperity of the honey-producers of our country, I have reason to believe that you will use your journal to give the call a wide circulation, and that you will throw the weight of your influence to promote its success. Go yourself and take your wife with you, and persuade all your friends to go. The money spent in the trip will be well spent. You can look in the face, and talk to your bee-keeping brethren; take in the sights; see the exhibits of many foreign countries; gather new ideas; improve in mental and physical vigor by change of scenes, and then return to your home a better man.

Augusta, Ga., Dec. 9, 1884. J. P. H. Brown.

So far as I am concerned, the above time will suit me as well as any, and I heartily second friend Brown's remarks. Of course, every one knows best whether or not he ought to take the time and money for such a visit; but it seems to me that this meeting promises to be such a one as the world never saw before, and that we are in duty bound, all of us who can consistently, to be on hand. I will endeavor to be present on all the days mentioned, and Gleanings will be glad to lend its influence to make the meeting a pleasant and profitable one.

GLEANINGS IN BEE CULTURE.
Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER.
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, DEC. 15, 1884.

Wherefore do ye spend money for that which is not bread? and labor for that which satisfieth not?—Isa. 55: 2.

Our offer of sections at an even $4.00, in lots of 10,000, will be extended to Jan. 1, 1885. We are not yet very badly crowded.

DECLINE IN TIN PLATE.

We have recently made arrangements for getting separator tin so that we can reduce the price of separators to $1.50 per hundred, or $13.50 per thousand. There is quite a decline in the price of wire nails also.

SEED OF THE PYRETHRUM.

We have secured seed of the genuine pyrethrum, the kind that produces the insect powder, and, singular enough, bees gather honey from it—at least to some extent. We can mail you a paper for 10 cts.

WATERBURY WATCHES TO CANADA BY MAIL.

Will our friends across the line please bear in mind that the postal authorities refuse to take watches by mail, on account of the duty? We do not know of any way you can get the premium watches, unless they are sent by express.

THE BEE-KEEPER'S SHOP AND APIARY COMBINED.

We are sorry to say, our engravers were just a little too late in getting out a couple of pictures, one representing a bee-keeper's apiary in the rear of his shop, and the other showing the shop itself, front view, with hives, etc., arranged just about as they would need to be on the approach of swarming time. The illustration also shows how to build such a small shop, the arrangement of the signs over the door, etc.—such a work-shop as every town in our land ought to furnish, where the bee-keepers of the neighborhood could always go and get a nice hive completely rigged, at a moment's notice. It will appear in our next issue.

DECLINE IN PRICES.

There are many important reductions in the price of many of the commodities used by bee-keepers. Thus, wire nails are reduced one-fourth in value. A copy of our latest price list will give you full particulars. By the way, I had almost forgotten to say that our price list now comes out in a new dress, with a cut on the cover that cost of itself about $75.00. The list is being mailed as fast as we can get at it to our 200,000 list of bee-keepers of the world; and if the clerks do not get to you as soon as you would like one, just say on a card, "Send price list." In fact, we have several girls now without very much to do, and they would jump at the chance of sending you as many as you can dispose of among your neighbors, or anybody who wants one. Do not be backward about telling how many you think you can distribute.

THE CONVENTION AT LANSING, MICH.

It is now Dec. 12, and I have just returned from the convention at Lansing. We have had a wonderfully pleasant time there; in fact, I did not know before that a convention could be so friendly and so pleasant in every way. Prof. Cook, with his wonderful fund of kindness and good will to everybody, seemed, as usual, overflowing with honest zeal for the cause, and I suspect that his genial good nature is catching, and that some of the young friends who have been growing up under his tutelage have got a good deal of his spirit, and that it is going to be scattered far and wide, not only throughout Michigan, but all over our land. In our next number I will tell you something about what was accomplished up there.

SECTIONS DOVETAILED ALL AROUND.

On getting home from the convention, I found Mr. Gray had finished a machine, partly automatic, to saw out the pieces for dovetailing sections, so arranged that the machine of itself sandpapers each piece as it leaves the saw. The pieces are sawed from bolts only 4¼ inches long. This enables us to use all the odds and ends that come from the planks in cutting up the one-piece sections; and with the nice basswood we are using now, the product of the machine is pretty nearly equal to the white-poplar sections made by friend Manum. These sections will be furnished for an even dollar added to the price of one-piece sections. Quite a few of our customers prefer these, because by making them a little thicker, and having the dovetails driven together hard, we get a section so stout it may be thrown about the room, without breaking. Samples free on application.

A BOOK ON CARP CULTURE.

In answer to many inquiries, I would say there is no recent work on carp culture. The most comprehensive and latest (1882) I can find is a book by Geo. Finley, of Pittsburgh, Pa. The price is $1.00; and for a book of only 140 pages, paper covers, it seems to me rather high. It would be very desirable indeed to have a book with illustrations—something like our books on bee culture, for instance; and with the interest there is on the subject, I feel sure a good large book, neatly bound in cloth, and full of pictures, might be furnished for a dollar. I have written to Mr. Finley; but although he has a revised and enlarged edition in contemplation, there does not seem to be much prospect of his getting at it very soon. We can mail the above book from this office, if you desire, on receipt of $1.00. Valuable articles are to be found almost every month on the subject in the *Ohio Farmer*, and other agricultural papers are noticing it a good deal.

ODD-SIZED SECTIONS.

Last season, and, in fact, almost every season, there have been times when we were obliged to say, "It will be impossible to stop our machinery on regular goods, and re-adjust it for 500 or 1000 pieces of something irregular." You may say, "Why not have an extra machine for odd sizes?" Well, we do have; but the orders for regular goods were such that orders for goods made on these machines could not be filled, though both machines were running night and day for several weeks, not to say months, at a tremendous additional expense for insurance on account of night work. Well, if you would send in your orders for odd-sized things now, we could do them just as well as not, and we can do them by daylight, when we are not crowded. If you are going to want odd-sized things next year, let us hear from you, and we will do almost any thing to get you to have them made now instead of in April, May, and June. Tell us what you want, and we will give you a low estimate.

FORNCROOK.S PATENT.

At the convention at Lansing, Mr. Forncrook scattered large numbers of circulars (without date), containing the following notice:

READ THIS!

A word of explanation in regard to the infringement suit on the One-Piece Section, we deem necessary at this time. I commenced suit against A. I. Root in the United States Circuit Court for the Northern District of Ohio, Stanley Matthews presiding. He decided that the patent was void for want of novelty. I have taken an appeal to the U. S. Supreme Court at Washington, which will decide the case, and the decision will be final. If it goes against me I will submit, but if in my favor, I will expect all who have infringed will pay me damages from date of patent.

Some unprincipled parties are advertising that the Courts have decided that the patent is void, which is not the case, as it is before the United States Court at Washington, at the present time. When the Court gives its opinion it will be final, and until it does, any one infringing will be liable for damages, if the United States Supreme Court sustains the patent.

Respectfully Yours, JAMES FORNCROOK.

I mailed one of these to Gen. M. D. Leggett, ex-Commissioner of Patents, who, I presume most of our friends know, is as good authority on such matters as we have in the world. I asked him to give me a reply that I could publish. Here it is:

A. I. Root ,Esq., Dear Sir:—James Forncrook has not taken an appeal from the decision of the Court here against him. If he does take an appeal hereafter it will be only for the purpose of being enabled to bulldoze the market.

The decision here was rendered by Justice Mathews, of the United States Supreme Court, and no judge on the Supreme Bench is more liberal toward patentees than Justice Matthews is.

There is certainly no probability, and I do not believe there is any possibility, of the Supreme Court ever reversing the decision made by Justice Mathews here. To use the threat of appeal against purchasers of your honey-box blanks is an outrage which I am sure your customers will not encourage by purchasing from Forncrook. Judge Matthews decided that Forncrook's alleged invention was fully anticipated by previous manufactures, and also by patent No. 157,473, granted to Hutchins, December 8, 1874; and no honest and intelligent man can ever come to any other conclusion than that, if Forncrook ever takes an appeal, it will be only to hold the case in the Supreme Court as long as he can; but he will be certain to withdraw it, and pay his costs before date of hearing.

Very Respectfully, etc., M. D. Leggett.
Cleveland, O., Dec. 13, 1884.

WHAT TO DO WHEN YOUR CREDIT IS QUESTIONED.

Why, behave yourself like a gentleman, as you ought to under all other circumstances; in fact, I think there is no place in the world where a man needs to be gentlemanly and Christian-like so much as when something comes up to touch upon or question his responsibility as a man. Many young men foolishly injure their standing by getting out of temper when some one makes careful inquiries in regard to their responsibility, before granting the wished for credit. Every good sound business man is at all times willing to have his affairs looked into, and his commercial standing carefully examined. He is ready, so to speak, at any time to open his account-books to any one who may care to see them; that is, after he has asked them for a credit or an extension of time. Any man who refuses to do this, or who gets indignant, and declines to tell how he is situated, forfeits his right to be trusted. Our best firms, in ordering goods from strangers, usually give reference without being asked for it, or refer to Bradstreet. Very often they say, "I will remit on receipt of goods, if that will be satisfactory; if not, send estimate, and I will cheerfully remit before the goods are shipped." As a rule, I should say it would be unwise to trust any man who "gets upon his ear" when you ask him to give reference, or make a simple statement of what he is worth, and what his liabilities are.

THE SUNDAY-SCHOOL TIMES.

There may be other periodicals in the world, teaching purity of life, uprightness of conduct, and progress everywhere in its best and truest sense, as the *Sunday-School Times* does, but I have not found them. No matter what your political views may be, the *Sunday-School Times* will not run against them, nor prove offensive to you, and the same may be said of religious denominations; but for all that, it teaches most vehemently, on every page and in every line, godliness and righteousness. It seems to recognize that its ability to do good is greatly dependent on the wisdom in which it handles the difficult problems of the day; and while it is fearless and unsparing in rebuking *sin* everywhere, it at the same time recognizes that to be human is to be sinful, and therefore a loving charity and kindness seems to pervade and shine forth from its pages everywhere. Its pages may not be so attractive to the average youth, especially on first acquaintance, as many other publications that are less scrupulous as to what they teach; but if the paper is read in the family, only a little by its different members, good can not fail to be the result; and by a little painstaking I think these younger ones can be taught to *love* purity and truth and righteousness. The price is $2.00 a year; but by taking a large number of copies, and remailing them from our office, we can send it to you for an even $1.25.

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